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PARTS 166 TO 199

Revised as of October 1, 1981

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thus: 46 CFR 166.01

Explanation

The Code of Federal Regulations is a codification of the general and permanent rules published in the Federal Register by the Executive departments and agencies of the Federal Government. The Code is divided into 50 titles which represent broad areas subject to Federal regulation. Each title is divided into chapters which usually bear the name of the issuing agency. Each chapter is further subdivided into parts covering specific regulatory areas.

ISSUE DATES

Each volume of the Code is revised at least once each calendar year and issued on a quarterly basis approximately as follows:

Title 1 through Title 16	as of January 1
Title 17 through Title 27	as of April 1
Title 28 through Title 41	as of July 1
Title 42 through Title 50	as of October 1

The appropriate revision date is printed on the cover of each volume.

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The contents of the Federal Register are required to be judicially noticed (44 U.S.C. 1507). The Code of Federal Regulations is prima facie evidence of the text of the original documents (44 U.S.C. 1510).

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JOHN E. BYRNE,
Director,
Office of the Federal Register.

October 1, 1981.

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THIS TITLE

Title 46—SHIPPING is composed of eleven volumes. The parts in these volumes are arranged in the following order: Parts 1-29, 30-40, 41-69, 70-89, 90-109, 110-139, 140-155, 156-165, 166-199, 200-399 and 400-end. The first nine volumes containing Parts 1-199 comprise Chapter I—Coast Guard, Department of Transportation. The tenth volume containing Parts 200 to 399 includes Chapter II—Maritime Administration, Department of Transportation. The eleventh volume containing Parts 400-End includes Chapter III—Coast Guard (Great Lakes Pilotage), Department of Transportation and Chapter IV—Federal Maritime Commission. The contents of these volumes represent all current regulations codified under this title of the CFR as of October 1, 1980.

Subject indexes appear for Subchapter B—Merchant Marine Officers and Seamen and Subchapter C—Uninspected Vessels following the subchapters in Parts 1-29; for Subchapter D—Tank Vessels in the Findings Aids section of Parts 30-40; for Subchapter F—Marine Engineering following the subchapter in Parts 41-69; for Subchapter H—Passenger Vessels following the subchapter in Parts 70-89; for Subchapter I—Cargo and Miscellaneous Vessels following the subchapter in Parts 90-109; for Subchapter J—Electrical Engineering following the subchapter in Parts 110-139; for Subchapter P—Manning of Vessels following the subchapter in Parts 156-165; and for Subchapter T—Small Passenger Vessels (Under 100 Gross Tons) following the subchapter in Parts 166-199.

For this volume Gary J. Bruegging was Chief Editor. The Code of Federal Regulations publication program is under the direction of Martha B. Girard, assisted by Robert E. Jordan.

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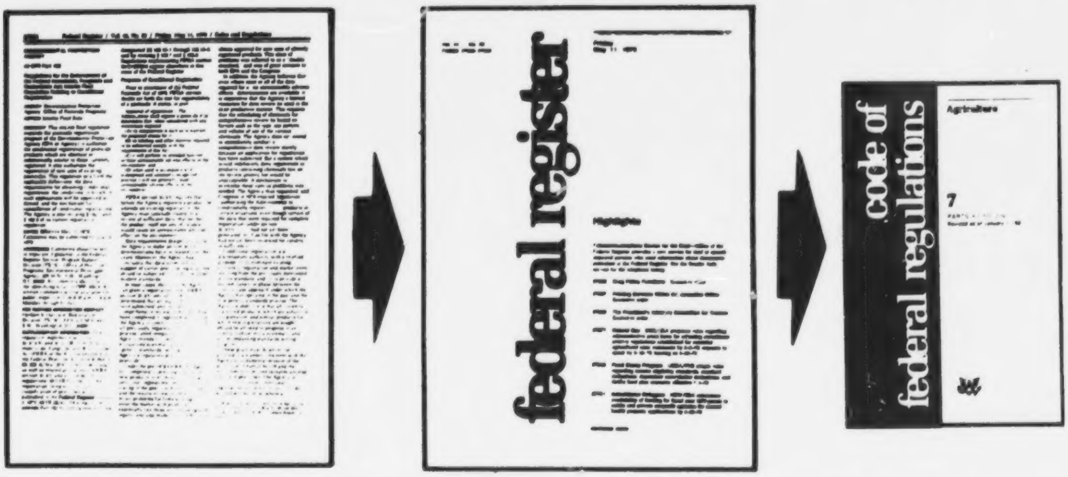

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SUBCHAPTER R—NAUTICAL SCHOOLS

PART 166—DESIGNATION AND APPROVAL OF NAUTICAL SCHOOL SHIPS

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166.20 Applicants for certificates; when eligible for examination.

AUTHORITY: Sec. 13, 38 Stat. 1169, as amended, sec. 7, 49 Stat. 1936, as amended, sec. 6(b)(1), 80 Stat. 938; 46 U.S.C. 672, 689, 49 U.S.C. 1655(b); 49 CFR 1.4(a)(2).

SOURCE: CGFR 52-43, 17 FR 9542, Oct. 18, 1952, unless otherwise noted.

§ 166.01 Approval of nautical school ships.

(a) Under the provisions of section 13 of the act of March 4, 1915 (38 Stat. 1169; 46 U.S.C. 672), as amended by section 1 of the act of June 25, 1936 (49 Stat. 1930; 46 U.S.C. 672), and the act of May 22, 1937 (50 Stat. 199; 46 U.S.C. 672), graduates of school ships approved by and conducted under rules prescribed by the Commandant may be rated able seamen or qualified members of the engine department.

(b) It has been made to appear to the satisfaction of the Commandant that the school ships operated by the States in which they are located; namely, by the California Maritime Academy, Great Lakes Maritime Academy at Northwestern Michigan College, Maine Maritime Academy, Massachusetts Maritime Academy, New York State Maritime College, and Texas Maritime Academy, and by the United States Merchant Marine Academy, the United States Naval Academy, and the United States Coast Guard Academy, have adopted a course of study for their students complying with the rules prescribed by the Commandant, and a system of instruction adequate to equip the deck and engineering students theoretically and physically in the rudiments of seamanship and navigation necessary to qualify the graduates for the rating of "able seamen" and in all branches of marine engineering necessary to qualify the graduates for the rating of "qualified member of the engine department," respectively.

(c) The school ships operated by the State organizations and the Federal academies named in paragraph (b) of this section are hereby approved and their graduates, if meeting the other qualifications required by law and regulations promulgated thereunder, are entitled to the rating of able seamen or qualified members of the engine department and to be certified as such.

(d) A graduate of any of those school ships, if meeting the other qualifications required by law and regulations promulgated thereunder, is also entitled to the rating of lifeboatman and to be certified as such.

(49 CFR 1.46(b))

[CGFR 52-43, 17 FR 9542, Oct. 18, 1952, as amended by CGD 72-92R, 38 FR 29320, Oct. 24, 1973]

§ 166.05 Course of study for deck students.

The course of study for deck students shall include (a) all the instructions in the rudiments of seamanship and navigation necessary to equip the student fully with the theoretical knowledge required for the proper discharge of the duties developing upon able seaman; (b) a thorough practical training in the mechanics of all operations incident to the sailing and management of a vessel insofar as such operations form a part of the duties of able seamen.

§ 166.10 Course of study for engineering students.

The course of study for engineering students shall include (a) all the instruction necessary to fully equip the student with the theoretical knowledge required for the proper discharge of the duties developing upon qualified members of the engine department; (b) a thorough practical training in the mechanics of all operations incident to the sailing and management of a vessel insofar as such operations form a part of the duties of qualified members of the engine department.

§ 166.15 Training for maintenance of discipline; ship sanitation; fire and lifeboat drills.

All students shall be trained to obey all lawful orders emanating from their superior officers and schooled in the rules of conduct to be observed in order that proper discipline may be maintained on shipboard. They shall also be instructed in the fundamentals of ship sanitation as prescribed by law and regulations, and shall be given intensive instruction and practical training in all the operations incident to fire and lifeboat drills, both in port and at sea.

§ 166.20 Applicants for certificates; when eligible for examination.

Applicants for certificates as able seamen will be eligible for examination after they have completed a course of study as outlined in §§ 166.05, 166.15, and applicants for certificates as qualified members of the engine department after they have completed a course of study as outlined in §§ 166.10, 166.15.

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AUTHORITY: R.S. 4405, as amended, 4462, as amended, sec. 6(b)(1), 80 Stat. 938; 46 U.S.C. 375, 416, 49 U.S.C. 1655(b); 49 CFR 1.4(a)(2). Interpret or apply R.S. 4417, as amended, 4418, as amended, 4426, as amended, 4433, as amended, 4450, as amended, 4453, as amended, 4488, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 70 Stat. 152, sec. 3, 68 Stat. 675, sec. 8, 75 Stat. 403; 46 U.S.C. 391, 392, 404, 411, 239, 222, 481, 489, 363, 367, 390b, 50 U.S.C. 198, 33 U.S.C. 1007, E.O. 11239; 3 CFR, 1964-1965 Comp.

SOURCE: CGFR 51-11, 16 FR 3218, Apr. 12, 1951, unless otherwise noted.

Subpart 167.01—General Provisions

§ 167.01-1 Basis and purpose of part.

By virtue of the authority in R.S. 4405 (46 U.S.C. 375), as amended, and to apply the requirements of the act of October 25, 1919, as amended (41 Stat. 305; 46 U.S.C. 363), the rules and regulations in this part are prescribed and apply to public nautical school ships, except vessels of the Navy or Coast Guard. It is the intent of the regulations in this part to provide minimum standards for vessels used as nautical school ships in accordance with the various inspection statutes and to obtain their correct and uniform application. This part is not applicable to civilian nautical school ships.

§ 167.01-5 Application of regulations.

(a) Regulations in this part contain requirements for the design, construction, inspection, lifesaving equipment, firefighting and fire prevention requirements, special operating requirements and number of persons allowed to be carried on nautical school ships.

(b) Vessels owned or chartered by the United States Maritime Administration that may be used by or in connection with any nautical school are not normally considered as merchant vessels of the United States and, therefore, are not documented.

(c) Documented nautical school ships of 500 gross tons or more, on international voyages, shall comply with the standards of the International Convention for Safety of Life at Sea, 1960, for cargo vessels.

[CGFR 51-11, 16 FR 3218, Apr. 12, 1951, as amended by CGFR 69-127, 35 FR 9982, June 17, 1970]

§ 167.01-7 Ocean or unlimited coastwise vessels on inland and Great Lakes Routes.

(a) Vessels inspected and certificated for ocean or unlimited coastwise routes shall be considered suitable for navigation insofar as the provisions of this subchapter are concerned on any inland route, including the Great Lakes.

[CGFR 59-10, 24 FR 3240, Apr. 25, 1959]

§ 167.01-8 Inspection of school ships using gross tonnage criterion.

(a) One of the criteria used for invocation of safety standards is the descriptions of school ships by relative sizes in gross tonnages. When it is determined in accordance with § 70.05-20 of this chapter that a particular school ship has a Bureau of Customs' assigned gross register tonnage which is not indicative of the relative physical size of the vessel, the requirements in this part and the manning shall be that applicable to a vessel of the greater relative size.

[CGFR 60-50, 25 FR 7982, Aug. 18, 1960]

§ 167.01-10 Effective date of regulations.

(a) The regulations in this part shall be in effect on and after July 1, 1951: *Provided*, That amendments, revisions, or additions shall become effective 90 days after the date of publication in the FEDERAL REGISTER unless the Commandant shall fix a different time.

(b) Amendments to regulations in this part will not be retroactive in effect unless specifically made so at the time the amendments are issued.

§ 167.01-15 Specifications for articles or materials.

Articles of equipment or materials used in the equipment or the construction of vessels, which conform to the specifications of the Navy or Coast Guard or their approved equivalent, may be accepted.

Subpart 167.05—Definitions

§ 167.05-1 Definition of terms.

Certain terms used in the regulations of this part are defined in this subpart.

§ 167.05-5 Approved.

This term means approved by the Commandant unless otherwise stated.

§ 167.05-10 Commandant.

This term means Commandant of the Coast Guard.

§ 167.05-15 Coast Guard District Commander.

This term means an Officer of the Coast Guard designated as such by the Commandant to command all Coast Guard activities within his district, which include the inspections, enforcement, and administration of Title 52, R.S., and acts amendatory thereof or supplemental thereto, and rules and regulations thereunder.

§ 167.05-20 Marine inspector or inspector.

These terms mean any person from the civilian or military branch of the Coast Guard assigned under the superintendence and direction of an Officer in Charge, Marine Inspection, or any other person as may be designated for the performance of duties with respect to the inspections, enforcement, and the administration of Title 52, R.S., and acts amendatory thereof or supplemental thereto, and rules and regulations thereunder.

§ 167.05-25 Nautical school ship.

This term means any vessel used as a nautical school ship by any state or political subdivision thereof or a school operated by the United States Maritime Administration, but shall not include vessels of the Navy or Coast Guard.

§ 167.05-30 Officer in Charge, Marine Inspection.

This term means any person from the civilian or military branch of the Coast Guard designated as such by the Commandant, and who, under the superintendence and direction of the Coast Guard District Commander, is in charge of an inspection zone for the performance of duties with respect to the inspections, enforcement, and administration of Title 52, R.S., and acts amendatory thereof or supplemental thereto, and rules and regulations thereunder.

Subpart 167.10—Enforcement and Right of Appeal

§ 167.10-1 Enforcement.

The Officer in Charge, Marine Inspection, is responsible for the performance of duties within his jurisdiction with respect to inspection of nautical school ships which are subject to the provisions of Title 52, R.S., and acts amendatory thereof or supplementary thereto, rules and regulations issued thereunder, and the inspections required thereby.

§ 167.10-50 Right of appeal.

Whenever any person directly interested in or affected by any decision or action of any Officer in Charge, Marine Inspection, shall feel aggrieved by such decision or action, he may appeal therefrom to the Coast Guard District Commander having jurisdiction and a like appeal shall be allowed from any decision or action of the Coast Guard District Commander to the Commandant, whose decision shall be final: *Provided, however,* That application for such reexamination of the case by a Coast Guard District Commander or by the Commandant shall be made within 30 days after the decision or action appealed from shall have been rendered or taken.

Subpart 167.15—Inspections

§ 167.15-1 Inspections required.

(a) Before a vessel may be used as a nautical school ship, it shall be inspected by the Coast Guard to determine that the hull, boilers, machinery, equipment and appliances comply with the regulations in this part.

(b) Every nautical school ship subject to the regulations in this part shall be inspected annually, or oftener if necessary, by the Coast Guard to determine that the hull, boilers, machinery, equipment and appliances comply with the regulations in this part.

(c) Nautical school ships while laid up and dismantled and out of commission are exempt from any or all inspections required by law or regulations in this part.

§ 167.15-5 Authority of marine inspectors.

Marine inspectors may at any time lawfully inspect any nautical school ship.

§ 167.15-10 Application for annual inspection.

Application in writing for the annual inspection of every nautical school ship required to be inspected by law and the regulations in this part shall be made by the master, owner, or agent to the Officer in Charge, Marine Inspection, at any local Marine Inspection Office, U.S. Coast Guard, where the nautical school ship may be operating. The application shall be on Form CG 3752, Application for Inspection of U.S. Vessel, which requires information on name and type of vessel, nature of employment and route in which to be operated, place where and date when the vessel may be inspected, and that no other application has been made to any Officer in Charge, Marine Inspection, since the issuance of the last valid certificate of inspection.

[CGFR 51-11, 16 FR 3218, Apr. 12, 1951, as amended by CGFR 64-19, 29 FR 7361, June 5, 1964]

§ 167.15-15 Application for inspection of a new nautical school ship or a conversion of a vessel to a nautical school ship.

Prior to the commencement of the construction of a new nautical school ship, or a conversion of a vessel to a nautical school ship, application for the approval of contract plans and specifications and for a certificate of inspection shall be made in writing by the owner or agent to the Officer in Charge, Marine Inspection, at the nearest local Marine Inspection Office, U.S. Coast Guard.

§ 167.15-20 Inspections of nautical school ships.

At each annual inspection, or oftener if deemed necessary, the inspector will inspect the hull, boilers, machinery, equipment, and appliances generally for compliance with the regulations in this subpart and in addition will inspect and test certain specific items as specifically set forth in this part.

§ 167.15-25 Inspection standards for hulls, boilers and machinery.

Except as otherwise provided by law or regulations in this subpart, the following standards shall be accepted as standard by the inspectors:

(a) American Bureau of Shipping "Rules for Building and Classing Steel Vessels" regarding the construction of hulls, boilers and machinery in effect on the date of inspection. These rules may be purchased from the American Bureau of Shipping, New York, N.Y.

(b) U. S. Navy Standard Construction Specification in effect on the date of inspection.

(c) U. S. Coast Guard Standard Construction Specification in effect on the date of inspection.

§ 167.15-30 Drydocking.

(a) Except for extensions as authorized by the Commandant, all vessels shall be drydocked or hauled out and made available for examination, and shall be examined by a marine inspector within the periods set forth in this paragraph, depending upon the service.

(1) Each vessel shall be drydocked or hauled out at intervals not to exceed 24 months if it is in salt water a total of more than 12 months in the 24-month period since it was last drydocked or hauled out.

(2) Each vessel shall be drydocked or hauled out at intervals not to exceed 36 months if it is in salt water less than 12 months in the first 24-month period since it was last drydocked or hauled out.

(3) Each vessel shall be drydocked or hauled out at intervals not to exceed 60 months if it operates exclusively in fresh water.

(b) The master, owner, or agent shall notify the Officer in Charge, Marine Inspection, at any time a vessel is to be placed on drydock or hauled out in order that an examination of the underwater portion of the vessel may be made if deemed necessary.

[CGFR 66-33, 31 FR 15298, Dec. 6, 1966]

§ 167.15-50 Tail shaft examination.

The outboard shaft or shafts on every nautical school ship shall be drawn for examination once at least in every 4 years: *Provided,* That, if the circumstances warrant it, the Coast Guard District Commander may extend this time to the next regular drydocking period, not to exceed 4 months.

[CGFR 66-33, 31 FR 15298, Dec. 6, 1966]

Subpart 167.20—Hull Requirements, Construction and Arrangement of Nautical School Ships

§ 167.20-1 Construction.

Except as otherwise provided by law or regulations in this subpart, the following standards for construction are acceptable.

(a) American Bureau of Shipping "Rules for Building and Classing Steel Vessels" regarding the construction of hulls, boilers and machinery in effect on the date of inspection. These rules may be purchased from the American Bureau of Shipping, New York, N.Y.

(b) U. S. Navy Standard Construction Specification in effect on the date of inspection.

(c) U. S. Coast Guard Standard Construction Specification in effect on the date of inspection.

§ 167.20-5 Subdivision.

All nautical school ships shall meet the minimum standard for one-compartment subdivision, calculated in accordance with Part 46 of Subchapter E (Load Lines) of this chapter.

§ 167.20-10 Means of escape.

(a) On all nautical school ships where the arrangements will possibly permit, all inclosures where persons may be quartered, or where anyone may be employed, shall be provided with not less than two avenues of escape, so located that if one of such avenues is not available another may be.

§ 167.20-15 Scupper, sanitary and similar discharges.

(a) All scupper, sanitary, and other similar discharges which lead through the ship's hull shall be fitted with efficient means for preventing the ingress of water in the event of a fracture of such pipes. The requirements do not apply to the discharges in the machinery space connected with the main and auxiliary engines, pumps, etc.

§ 167.20-17 Bilge pumps, bilge piping and sounding arrangements.

The number, capacity, and arrangement of bilge pumps and bilge piping shall be in accordance with the requirements for cargo vessels contained in Parts 50 to 61 of Subchapter F (Marine Engineering) of this chapter. Sounding pipes shall be fitted in each compartment, except those accessible at all times. The main and secondary drain systems installed in accordance with U.S. Navy or U.S. Coast Guard Construction Specifications shall be accepted as meeting the intent of this section.

[CGFR 52-43, 17 FR 9542, Oct. 18, 1952]

§ 167.20-20 Stability.

Each nautical school ship shall be subjected to a stability test under the supervision of the Coast Guard. A stability letter, prepared by the Coast Guard, embodying necessary instructions to insure maintenance of sufficient stability at all times, for both intact and damaged condition, shall be posted on board the nautical school ship.

§ 167.20-25 Plans.

(a) For use in connection with the stability test, the following plans shall be furnished to the Coast Guard:

(1) General arrangement plans;
(2) Midship section;
(3) Lines; and
(4) Curves of form.

(b) In the case of new construction of a nautical school ship, the same kind of plans as required by the Coast Guard for a cargo ship shall be submitted for approval. A list of the necessary plans may be obtained from the Commandant upon request.

(c) The owner or builder shall submit required drawings or blueprints in triplicate so that one set may be retained by the Commandant, one set approved and returned to the Officer in Charge, Marine Inspection, for his records, and one set approved and returned to the owner or builder for his information. If the owner or builder desires additional sets of drawings or plans approved, he shall submit such additional sets with the required drawings or plans.

§ 167.20-30 Ballast.

When a nautical school ship is required to carry fixed ballast, in order to increase the metacentric height, such ballast shall not be moved except for examination and repair of the nautical school ship, and then only in the presence of an inspector.

§ 167.20-35 Liquid ballast.

When water ballasting of fuel tanks is necessary, such oily ballast shall not be subsequently discharged overboard within any of the prohibited zones as defined by the Oil Pollution Act, 1961 (33 U.S.C. 1011), except through oily water separators which meet the requirements in § 55.10-25(n) of Subchapter F (Marine Engineering) of this chapter, or directly into sludge barges or shore facilities, or other approved means.

[CGFR 62-17, 27 FR 9046, Sept. 11, 1962]

Subpart 167.25—Marine Engineering

§ 167.25-1 Boilers, pressure vessels, piping and appurtenances.

(a) Except as otherwise provided by law or regulations in this subpart, all vessels constructed or reconverted to use as nautical school ships on or after July 1, 1951, shall conform with one of the following standards for boilers, pressure vessels, piping and appurtenances:

(1) Marine engineering regulations in Parts 50 to 63, inclusive, of Subchapter F (Marine Engineering) of this chapter.

(2) Navy Standard Construction Specifications in effect at time of construction or conversion.

(3) U.S. Coast Guard Standard Construction Specifications in effect at time of construction or conversion.

(b) The boilers, pressure vessels, and appurtenances shall be inspected initially under the provisions of Part 52 of Subchapter F (Marine Engineering) of this chapter. All alterations, replacements or repairs on nautical school ships shall conform to the applicable standards in paragraph (a) of this section insofar as practicable.

[CGFR 51-11, 16 FR 3218, Apr. 12, 1951, as amended by CGFR 68-82, 33 FR 18908, Dec. 18, 1968]

§ 167.25-5 Inspection of boilers, pressure vessels, piping and appurtenances.

The inspection of boilers, pressure vessels, piping and appurtenances shall be in accordance with the applicable regulations in Parts 50 to 63, inclusive, of Subchapter F (Marine Engineering) of this chapter, insofar as they relate to tests and inspection of cargo vessels.

[CGFR 68-82, 33 FR 18908, Dec. 18, 1968]

§ 167.25-20 Carrying of excess steam.[1]

When it is known or comes to the knowledge of the Officer in Charge, Marine Inspection, that any steam nautical school ship is or has been carrying an excess of steam beyond that which is allowed by her certificate of inspection, the Officer in Charge, Marine Inspection, in whose zone the nautical school ship is being navigated, in addition to reporting the fact to the United States District Attorney for prosecution under R. S. 4437 (46 U.S.C. 413), shall require the owner or owners of the nautical school ship to place on the boiler a lockup safety valve which will prevent the carrying of an excess of steam and it shall be under the control of said Officer in Charge, Marine Inspection.

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[1] Attention is called to R. S. 4437 (46 U.S.C. 413), which makes the obstructing of a safety valve a misdemeanor subject to a $200 fine and imprisonment for not to exceed 5 years.

Subpart 167.30—Repairs or Alterations

§ 167.30-1 Notice of repairs or alterations required.

(a) It shall be the duty of the master, owner, or agent to notify the nearest Officer in Charge, Marine Inspection, whenever repairs or alterations are required, or will be made on a nautical school ship.

(b) Whenever a nautical school ship is placed upon the dock, it shall be the duty of the master, owner or agent to report the same to the Officer in Charge, Marine Inspection, so that a thorough inspection may be made by the Coast Guard to determine what is necessary to make such a nautical school ship seaworthy, if the condition or age of the nautical school ship, in the judgment of the Officer in Charge, Marine Inspection, renders such examination necessary.

§ 167.30-5 Proceeding to another port for repairs.

(a) The Officer in Charge, Marine Inspection, may issue a permit to proceed to another port for repairs, if in his judgment it can be done with safety. In the issuance of such a permit the Officer in Charge, Marine Inspection, will state upon its face, the conditions upon which it is granted.

(b) When a nautical school ship obtains a permit from the Officer in Charge, Marine Inspection, to go to another port for repairs, the Officer in Charge, Marine Inspection, shall so notify the Coast Guard District Commander, and state the repairs to be made. The Coast Guard District Commander shall notify the Coast Guard District Commander of the district where such repairs are to be made, furnishing him a copy of the report indicating the repairs ordered.

§ 167.30-10 Special operating requirements.

Inspection and testing required when making alterations, repairs, or other such operations involving riveting, welding, burning, or like fire-producing actions are as follows:

(a) The provisions of "Standard for the Control of Gas Hazards on Vessels to be Repaired", NFPA No. 306, published by National Fire Protection Association, 60 Batterymarch Street, Boston, Mass., shall be used as a guide in conducting the inspections and issuance of certificates required by this section.

(b) Until an inspection has been made to determine that such operation can be undertaken with safety, no alterations, repairs, or other such operations involving riveting, welding, burning, or like fire-producing actions shall be made:

(1) Within or on the boundaries of cargo tanks which have been used to carry combustible liquids or chemicals in bulk; or,

(2) Within spaces adjacent to cargo tanks which have been used to carry Grade D combustible liquid cargo, except where the distance between such cargo tanks and the work to be performed is not less than twenty-five (25) feet; or,

(3) Within or on the boundaries of fuel tanks; or,

(4) To pipe lines, heating coils, pumps, fittings, or other appurtenances connected to such cargo or fuel tanks.

(c) Such inspections shall be made and evidenced as follows:

(1) In ports or places in the United States or its territories and possessions, the inspection shall be made by a marine chemist certificated by the National Fire Protection Association; however, if the services of such certified marine chemist are not reasonably available, the Officer in Charge, Marine Inspection, upon the recommendation of the vessel owner and his contractor or their representative, shall select a person who, in the case of an individual vessel, shall be authorized to make such inspection. If the inspection indicates that such operations can be undertaken with safety, a certificate setting forth the fact in writing and qualified as may be required, shall be issued by the certified marine chemist or the authorized person before the work is started. Such qualifications shall include any

requirements, as may be deemed necessary to maintain, insofar as can reasonably be done, the safe conditions in the spaces certified throughout the operation and shall include such additional tests and certifications as considered required. Such qualifications and requirements shall include precautions necessary to eliminate or minimize hazards that may be present from protective coatings or residues from cargoes.

(2) When not in such a port or place, and a marine chemist or such person authorized by the Officer in Charge, Marine Inspection, is not reasonably available, the inspection shall be made by the senior officer present and a proper entry shall be made in the vessel's logbook.

(d) It shall be the responsibility of the senior officer present to secure copies of certificates issued by the certified marine chemist or such person authorized by the Officer in Charge, Marine Inspection. It shall be the responsibility of the senior officer present, insofar as the persons under his control are concerned, to maintain a safe condition on the vessel by full observance of all qualifications and requirements listed by the marine chemist in the certificate.

[CGFR 64-19, 29 FR 7361, June 5, 1964]

Subpart 167.35—Lifesaving Equipment

§ 167.35-1 Use of approved lifesaving equipment.

(a) Lifeboats, lifeboat disengaging apparatus, life rafts, life preservers, or other lifesaving equipment which conform to the specifications of the Navy or Coast Guard, or their approved equivalent, may be accepted for use on nautical school ships, but on or before July 1, 1963, all kapok and fibrous glass life preservers which do not have plastic-covered pad inserts shall be removed from service.

[CGFR 60-36, 25 FR 10642, Nov. 5, 1960]

§ 167.35-2 Inflatable liferafts.

(a) On all vessels of less than 3,000 gross tons, except those required to meet the standards of the International Convention for Safety of Life at Sea, 1960, the Officer in Charge, Marine Inspection, upon request of the master, owner or agent, may permit substitution of approved inflatable life rafts for lifeboats. The criteria to be used by the Officer in Charge, Marine Inspection, in determining substitutions to be permitted will be in accordance with substitutions permitted in Subchapter H (Passenger Vessels) of this chapter.

(b) Inflatable life rafts shall be stowed in such a manner that they will float free in the event of the vessel sinking. Stowage and arrangements will be to the satisfaction of the Officer in Charge, Marine Inspection.

(c) Inflatable life rafts shall be serviced at an approved service facility every 12 months or not later than next vessel inspection, provided total time since date of last servicing does not exceed 15 months.

NOTE: After the raft has been satisfactorily serviced in the presence of a marine inspector, the raft is repacked and sealed and the carrying case stamped "PASSED" together with the date, port, and the marine inspector's initials.

(d) Inflatable life rafts shall be equipped in accordance with Subpart 160.051 of Subchapter Q (Specifications) of this chapter.

(e) An inflatable liferaft must meet the following:

(1) The liferaft must be approved under Subpart 160.051 of this chapter.

(2) Except as required in paragraph (e)(3) of this section, the liferaft must be marked in accordance with § 160.051-8 of this chapter.

(3) After January 1, 1976 on vessels certificated for Great Lakes service and after January 1, 1980 on other certificated vessels, the liferaft must show on or near the liferaft's nameplate, and the liferaft's container must show on or near the plate, marking approved by a Coast Guard inspector that is—

(i) An approval number consisting of "160.051/" followed by a number that is greater than 49 followed by a revision number (e.g. 160.051/50/1); or

(ii) An approval number consisting of "160.051/" followed by a number that is smaller than 50 that is followed by a revision number (e.g. 160.051/48/

1), the words "MOD. TEMP.", a Coast Guard inspector's initials, and the date that an inspector found that the liferaft met § 160.051-5(c)(4) of this chapter.

(Sec. 8, 72 Stat. 623; 46 U.S.C. 1387)

[CGFR 68-36, 25 FR 10642, Nov. 5, 1960, as amended by CGFR 69-116, 35 FR 6862, Apr. 30, 1970; CGD 75-040, 40 FR 58154, Dec. 17, 1975]

§ 167.35-3 Hydraulic releases.

(a) Hydraulic releases approved under Subpart 160.062 of Subchapter Q (Specifications) of this chapter, and spring-tensioned gripes may be permitted in the installation of any liferaft, inflatable liferaft, lifefloat, or buoyant apparatus. On and after July 1, 1969, only hydraulic releases approved under Subpart 160.062 of this chapter may be used.

(b) Existing hydraulic releases may be returned to their manufacturers or to repair facilities designated by their manufacturers for the purpose of determining compliance with Subpart 160.062 of this chapter. If such a release passes the periodic servicing and testing requirements in § 160.062-4(f) of this chapter and the reconditioning work (if any) is done to the satisfaction of the Officer in Charge, Marine Inspection, the complete body marking and inspection tagging required by § 160.062-5 of this chapter shall be placed on such a release indicating it is an approved item.

(c) A hydraulic release used in the installation of any liferaft, inflatable liferaft, lifefloat, or buoyant apparatus shall undergo the periodic servicing and testing required by Subpart 160.062 of this chapter every 12 months which may be extended to 15 months as determined by the date shown on its inspection tag. The springs of a spring-tensioned gripe used in such an installation shall be renewed when the accompanying hydraulic release is serviced and tested.

[CGFR 68-32, 33 FR 5724, Apr. 12, 1968]

§ 167.35-5 Life preservers.

(a) *Number required.* All nautical school ships shall be provided with one life preserver for each person carried.

(b) *Shipboard inspections.* At each annual inspection of any nautical school ship, or oftener if deemed necessary, all life preservers shall be examined by an inspector to determine serviceability. When life preservers are found to be in accordance with the requirements, the inspector shall stamp them with the word "Passed", his initials, port, and date. Life preservers found not to be in a serviceable condition shall be removed from the vessel's equipment and, if beyond repair, shall be destroyed in the presence of the inspector.

(c) *Personal flotation device lights.* Each life preserver carried on a vessel engaged in ocean, coastwise, or Great Lakes service after June 30, 1980, must have a personal flotation device light that is approved under Subpart 161.012 of this chapter. Each light must be securely attached to the front shoulder area of a life preserver.

(d) *Retroreflective material.* Each life preserver carried on a vessel after June 30, 1980, must have at least 200 sq. cm (31 sq. in.) of retroreflective material attached on its front side, at least 200 sq. cm on its back side, and at least 200 sq. cm of material on each of its reversible sides. The material must be Type I material that is approved under Subpart 164.018 of this chapter. The material attached on each side of a life preserver must be divided equally between the upper quadrants of the side, and the material in each quadrant must be attached as closely as possible to the shoulder area of the life preserver.

(46 U.S.C. 375, 390b, 391a, 416, 481, 526p, 1454, and 1488; 49 U.S.C. 1655(b); 50 U.S.C. 198; and 49 CFR 1.46)

[CGFR 51-11, 16 FR 3218, Apr. 12, 1951, as amended by CGD 76-028, 44 FR 38788, July 2, 1979]

§ 167.35-10 Lifeboats.

Each nautical school ship shall be provided with fully equipped lifeboats of sufficient capacity to accommodate all persons on board.

§ 167.35-15 Tests of lifeboats at annual inspection.

At each annual inspection, or oftener if necessary, the inspectors shall satisfy themselves that every lifeboat, together with its equipment, is in every respect to good condition and ready for immediate use. Every lifeboat, with its required equipment, shall be lowered to near the water and loaded to its allowed capacity, evenly distributed throughout its length, and then lowered into the water afloat. In making this test, persons or satisfactory deadweight may be used. If persons are used, the weight of each person shall average at least 165 pounds. When deadweight is used, the weight shall be equivalent to at least 165 pounds for each person allowed.

§ 167.35-20 Air tanks in lifeboats.

Before any lifeboat is passed and accepted, the air tanks if installed shall be tested in the presence of an inspector by an air pressure of not more than 1 pound per square inch. At each subsequent annual inspection, or oftener if necessary or desirable, the inspectors shall satisfy themselves that the air tanks are in good condition, but pressure need not be applied unless the inspectors are in doubt regarding the efficiency of the tanks. This does not take from the inspectors the right and authority to satisfy themselves at any time, either by examination or pressure, as to the condition of the air tanks.

§ 167.35-25 Numbering and marking of lifeboats.

(a) The number of each lifeboat shall be plainly marked or painted on each side of the bow in figures three inches high; and, where lifeboats are carried on both sides of a vessel, the odd-numbered boats shall be stowed on the starboard side and even-numbered boats on the port side; i.e., lifeboat No. 1 shall be forward on the starboard side, and lifeboat No. 3 next abaft lifeboat No. 1; lifeboat No. 2 shall be forward on the port side and lifeboat No. 4 next abaft lifeboat No. 2, etc. Where lifeboats are nested, the lifeboat under lifeboat No. 1 shall be numbered 1a, the lifeboat under lifeboat No. 2 shall be numbered 2a, etc.

(b) The cubical contents and number of persons allowed to be carried on each lifeboat shall be plainly marked or painted on each side of the bow in letters and numbers 1½ inches high. In addition, the number of persons allowed shall be plainly marked or painted on the top of at least two of the thwarts in letters and numbers three inches high.

(c) Such letters and numbers required by paragraphs (a) and (b) of this section shall be dark on a light background or light on a dark background.

(d) The top of thwarts, side benches and footings of lifeboats shall be painted or otherwise colored international orange. The area in way of the red mechanical disengaging gear control shall be painted or otherwise colored white, to provide a contrasting background for the control.

(e) Where mechanical disengaging apparatus is used, the control effecting the release of the lifeboat shall be painted bright red.

[CGFR 51-11, 16 FR 3218, Apr. 12, 1951, as amended by CGFR 62-8, 27 FR 4173, May 2, 1962]

§ 167.35-30 Care of lifeboats.

Lifeboats shall be stripped, cleaned, and thoroughly overhauled, at least once in every year.

§ 167.35-35 Davits.

All lifeboats shall be carried under davits of approved types. Davits approved by the Navy may be used. More than one type of davit may be carried on any one vessel.

§ 167.35-40 Strength and operation of davits.

The davits shall be of such strength that the boats can be lowered with their full complement of persons and equipment.

§ 167.35-45 Releasing gear or disengaging apparatus.

More than one type of approved releasing gear or disengaging apparatus may be installed in the lifeboats on any one nautical school ship. Releasing gear approved by the Navy may be used.

§ 167.35-50 Inspection of releasing gear or disengaging apparatus.

The inspectors, when inspecting or reinspecting vessels, shall carefully examine the releasing gear or disengaging apparatus and the blocks and falls thereof to satisfy themselves that the same are in good condition.

§ 167.35-60 Lifeboat equipment.

The equipment specified in this section shall be provided for each lifeboat. This equipment need not be stowed in the lifeboat but shall be readily available for emergency use. The lifeboat, except where otherwise specified in this subpart, shall be equipped as follows:

(a) *Bailer.* One bailer of sufficient size and suitable for bailing with lanyard attached.

(b) *Boathooks.* Two boathooks of clear-grained white ash of suitable length but not less than 8 feet long by 1½ inches in diameter.

(c) *Bucket.* One galvanized iron bucket of about 2-gallon capacity, with lanyard attached.

(d) *Compass.* One compass.

(e) *Distress signals.* Twelve hand red flare distress signals in a watertight container, and four floating orange smoke distress signals; or twelve hand red flare distress signals in a watertight container, and twelve hand orange smoke distress signals in a watertight container; or twelve hand combination flare and smoke distress signals in a watertight container. The service use shall be limited to a period of three years from date of manufacture, and replacement shall be made no later than the first annual inspection of the vessel after the date of expiration.

(f) *Ditty bag.* One canvas bag containing sailmaker's palm, needles, sail twine, marline, and marline spike.

(g) *Drinking cups.* Two drinking cups.

(h) *Flashlight.* One flashlight.

(i) *Hatchets.* Two hatchets attached to the boat by individual lanyards and readily available for use, one at each end of the boat.

(j) *Lantern.* One lantern containing sufficient oil to burn at least 9 hours and ready for immediate use.

(k) *Life line.* When necessary a life line, or grab line, properly secured the entire length on each side, festooned in bights not longer than 3 feet, with a seine float in each bight, which float may be omitted if the line is of an inherently buoyant material and absorbs little or no water. The life line shall be of a size and strength not less than ⅜-inch diameter manila. The bights shall hang to within 12 inches of the water when the lifeboat is light.

(l) *Life preservers or life buoys.* Two life preservers or two life buoys.

(m) *Mast and sails.* A mast or masts with at least one good sail and proper gear for each, the sail and gear to be protected by a suitable canvas cover. Where a nautical school ship in the North Atlantic north of 35° north latitude is provided with a radiotelegraph installation, only one of the lifeboats on each side of the nautical school ship shall be required to be so equipped.

(n) *Matches.* One box of friction matches in a watertight container.

(o) *Oars.* A single banked complement of oars, two spare oars, and a steering oar with rowlock or becket. Motor lifeboats and lifeboats fitted with propellers operated by hand shall be equipped with four oars and one steering oar.

(p) *Painter.* One painter of manila rope not less than 2¾ inches in circumference and a length not less than three times the distance between the boat deck and the light draft.

(q) *Plugs.* Each drain hole shall be provided with two plugs or caps attached by chains, or with one cap attached by chain to the lifeboat if the cap is fitted with a setscrew to prevent its being taken off without removing the setscrew.

(r) *Provisions.* Two pounds of provisions for each person consisting of hard bread or its equivalent in any emergency ration approved by the Coast Guard or Navy of cereal or vegetable compound packaged in hermetically sealed containers.

(s) *Rowlocks.* One set and a half of rowlocks, each attached to the lifeboat by a separate chain.

(t) *Rudder.* One rudder and tiller.

(u) *Sea anchor.* One sea anchor.

(v) *Signaling mirrors.* Two signaling mirrors.

(w) *Storm oil.* One container holding 1 gallon of vegetable or animal oil, so constructed that the oil can be easily distributed on the water and so arranged that it can be attached to the sea anchor.

(x) *Water.* For each person at least 1 quart of drinking water contained in hermetically sealed cans of a type approved by the Coast Guard or Navy.

[CGFR 51-11, 16 FR 3218, Apr. 12, 1951, as amended by CGFR 57-18, 22 FR 3471, May 17, 1957; CGFR 58-44, 23 FR 8984, Nov. 9, 1958]

§ 167.35-65 Motor lifeboat equipment.

(a) *Equipment required.* In addition to the equipment required by § 167.35-60, the following items shall also be carried:

(1) Two portable fire extinguishers having Coast Guard classification B-1, C-1. (Carbon dioxide or dry chemical type approved by the Coast Guard or the Navy.)

(2) One tool kit containing at least:

(i) One 12-ounce ball peen hammer.

(ii) One screwdriver with 6-inch blade.

(iii) One pair 8-inch slip joint pliers.

(iv) One 8-inch adjustable end wrench.

(b) *Motor and accessories.* (1) The engine for motor-propelled lifeboats shall be of a reliable, marine, heavy-duty type, permanently installed inside the lifeboat.

(2) Motor-propelled lifeboats certified for 100 or more persons shall be fitted with at least two bilge pumps, one of which shall be an efficient hand pump. Each bilge pump shall be capable of pumping from each compartment. Motor-propelled lifeboats certified for less than 100 persons shall be fitted with one bilge pump, either hand or power, having suitable suctions or drainage to different parts of the lifeboat.

(c) *Equipment not required.* A motor-propelled lifeboat need not carry a mast or sails nor more than four rowing oars and one steering oar.

[CGFR 51-11, 16 FR 3218, Apr. 12, 1951, as amended, 21 FR 6713, Sept. 6, 1956; CGFR 62-17, 27 FR 9047, Sept. 11, 1962]

§ 167.35-70 Portable radio apparatus.

(a) Each nautical school ship shall be provided with a portable radio apparatus complying with the requirements of the Federal Communications Commission, unless at least one lifeboat on each side of the vessel is fitted with a fixed radio installation. The apparatus shall be so designed that it may be used by an unskilled person.

(b) The portable radio apparatus shall be kept in the radio room, chart room, or other suitable location ready to be moved to one or other of the lifeboats in the event of an emergency.

[CGFR 61-52, 26 FR 11909, Dec. 31, 1961]

§ 167.35-72 Emergency position indicating radiobeacon (EPIRB).

(a) Each vessel in ocean and coastwise service must have an approved Class A emergency position indicating radiobeacon (EPIRB) that is—

(1) Operative;

(2) Stowed where it is readily accessible for testing and use; and

(3) Stowed in a manner so that it will float free if the vessel sinks.

(b) Compliance with this section is not required for a coastwise vessel—

(1) That carries a VHF radiotelephone that complies with the FCC requirements; and

(2) Whose Certificate of Inspection is endorsed for a route which does not extend more than 20 miles from a harbor of safe refuge. (49 CFR 1.4(b)(1)(ii) and 1.46(b))

[CGD 73-24R, 39 FR 10139, Mar. 18, 1974]

§ 167.35-75 Handling of lifeboats.

All the lifeboats shall be stowed in such a way that they can be launched in the shortest possible time and that, even under unfavorable conditions of list and trim from the point of view of the handling of the lifeboats, it may be possible to embark in them as large a number of persons as possible.

§ 167.35-80 Life buoys.

(a) *Number required.* (1) The minimum number of life buoys and the minimum number to which water lights shall be attached shall be in accordance with the following table:

TABLE 167.35-80—(a) LIFE BUOYS

Length of nautical school ship	Minimum number of life buoys	Minimum number of life buoys with water lights attached
Under 100 feet	2	0
100 feet and under 200 feet	4	2
200 feet and under 300 feet	6	2
300 feet and under 400 feet	12	4
400 feet and under 600 feet	18	9
600 feet and under 800 feet	24	12
800 feet and over	30	15

(2) One life buoy on each side of a vessel shall have an attached line at least 15 fathoms in length.

(b) *Distribution and securing of life buoys and water lights.* All life buoys and water lights shall be distributed and secured as follows:

(1) All life buoys shall be so placed as to be readily accessible to the persons on board, and their positions plainly indicated so as to be known to the persons concerned.

(2) The life buoys shall always be capable of being cast loose, and shall not be permanently secured in any way.

(c) *Water lights.* Each water light must be an approved automatic electric type, constructed in accordance with Subpart 161.010 of this chapter or approved by the U.S. Navy; except a water light constructed in accordance with former Subpart 160.012 or 161.001 of this chapter that was installed before January 1, 1972, may be retained in an existing installation as long as it is maintained in good condition.

(46 U.S.C. 369, 375, 390b, 416, and 481; 49 U.S.C. 1655; 49 CFR 1.46)

[CGFR 51-11, 16 FR 3218, Apr. 12, 1951, as amended by CGD 79-165a, 45 FR 46188, Sept. 29, 1980]

§ 167.35-85 Line-throwing appliances.

(a) *Requirements.* All nautical school ships (regardless of tonnage or manner of propulsion) engaged on international voyages and all nautical school ships of 500 gross tons and over, shall be equipped with an approved line-throwing appliance, and equipment auxiliary thereto, of the impulse-projected rocket type, the requirements for which are set forth in Subpart 160.040 of Subchapter Q (Specifications) of this chapter. All nautical school ships of 150 gross tons and over and less than 500 gross tons, shall be equipped with an approved line-throwing appliance, and equipment auxiliary thereto, of the shoulder gun type or the impulse-projected rocket type, the requirements for which are set forth in Subparts 160.031 and 160.040, respectively, of Subchapter Q (Specifications) of this chapter. The line-throwing appliances shall be approved by the Coast Guard or the Navy. Service use of rockets shall be within four years from date of manufacture. Lyle gun type line-throwing appliances already in service may be continued in use so long as in good and serviceable condition in lieu of impulse-projected rocket type or shoulder gun type line-throwing appliances: *Provided,* That any replacements shall be made with a line-throwing appliance of the impulse-projected rocket type or shoulder gun type, as applicable.

(b) *Accessibility.* The line-throwing appliance and its equipment shall be kept always easily and immediately accessible and ready for use. No part of this equipment shall be used for any other purpose.

(c) *Drills.* The master of a nautical school ship equipped with a line-throwing appliance shall drill his crew in its use and require it to be fired at least once in every 3 months. Each drill shall be recorded in the nautical school ship's log book. The service line shall not be used for drill purposes. The drills shall be conducted as follows:

(1) For impulse-projected rocket type, by actually firing the rocket with any ordinary line of proper length attached; or,

(2) For shoulder gun type, by actual firing, using the regular cartridge and projectile with any ordinary line of proper length; or,

(3) For Lyle gun type, by actual firing, using one-half the usual charge of powder with regular service projectile and any ordinary line of proper length.

§ 167.35-90 Embarkation ladders.

Nautical school ships shall be provided with flexible ladders to enable people to descend to lifeboats, one such ladder being provided for each set of boat davits. These ladders shall be kept ready and convenient for use on the lifeboat deck, and shall reach from such deck to the nautical school ship's light water line.

Subpart 167.40—Certain Equipment Requirements

§ 167.40-1 Electrical installations.

(a) Except as otherwise provided by law or regulation in this part, the electrical equipment may be considered acceptable if it complies with the requirements covered by any one of the following:

(1) U.S. Navy Standard Construction Specifications currently in effect.

(2) U. S. Coast Guard electrical engineering requirements in Subchapter J (Electrical Engineering) of this chapter.

(3) American Institute of Electrical Engineers Standard No. 45, 1945 or 1948 Revision. These standards may be purchased from the American Institute of Electrical Engineers, New York, N. Y.

(b) Changes or alterations in the electrical installations of vessels now in service shall be in accordance with standards set forth in paragraph (a) of this section.

(c) Special attention shall be given by the inspectors in the examination of present installation to see that it is of such nature as to preclude any danger of fire, giving particular attention to wiring which is carried through wooden bulkheads, partitions, etc.

[CGFR 51-11, 16 FR 3218, Apr. 12, 1951, as amended by CGFR 52-43, 17 FR 9543, Oct. 18, 1952]

§ 167.40-5 Alarm bells.

All nautical school ships over 100 gross tons shall have all sleeping accommodations, public spaces, and machinery spaces equipped with a sufficient number of alarm bells so located as to warn all occupants. The system shall operate from a continuous source of electric energy capable of supplying the system for a period of at least 8 hours without being dependent upon the main, auxiliary or emergency generating plants. Each bell shall produce a signal of a tone distinct from that of other bell signals in the vicinity and shall be independently fused, with each of these fuses located above the bulkhead deck. The bells shall be controlled by a manually-operated contact maker located in the pilothouse. The characteristics of the contact maker shall be such that it possesses:

(a) Positive contact;

(b) Watertightness (when located in open spaces subject to weather);

(c) Means whereby its electrically open or closed position can be determined by sense of touch;

(d) Means to affect a make-or-break circuit for signaling; and

(e) Self-maintaining contacts.

§ 167.40-7 Voice tubes, telephone, and telegraph systems.

(a) Each nautical school ship shall be fitted with an efficient means of communication between the pilothouse and engine room. This may be by bell signals with voice tubes, telephone, or telegraph systems.

(b) A voice tube or telephone system between the radio room and the navigating bridge shall be provided when the nautical school ship is equipped with a radio installation.

(c) A voice tube or telephone system between the pilothouse and emergency steering station shall be provided when the nautical school ship is equipped with an emergency steering station.

§ 167.40-10 Fog sound signal devices.

(a) The efficient fog bell required upon vessels by law (33 U. S. C. 145m (c)(iv)) shall be held to mean a bell not less than 8 inches in diameter from outside to outside and constructed of bronze or brass or other material equal thereto in tone and volume of sound, and located where the sound shall be the least obstructed.

(b) All nautical school ships of more than 350 feet in length shall be provided with a fog gong which will produce a sound easily distinguishable from the sound of the bell referred to in paragraph (a) of this section, and shall have a range of audibility approximating that of the bell. Vessels operating exclusively on the Great Lakes and the inland waters of the United States shall be exempt from the requirements of this paragraph.

[CGFR 54-46, 19 FR 8708, Dec. 18, 1954]

§ 167.40-15 Whistles.

Nautical school ships shall be provided with an efficient whistle sounded by steam or by some substitute for steam to give the necessary whistle signals.

§ 167.40-20 Deep-sea sounding apparatus.

Nautical school ships shall be equipped with an efficient or electronic deep-sea sounding apparatus in addition to the ordinary deep-sea hand lead. The electronic deep-sea sounding apparatus required shall be installed, kept in working order, and ready for immediate use.

[CGFR 58-10, 23 FR 4686, June 26, 1958, as amended by CGD 75-074, 42 FR 5964, Jan. 31, 1977]

§ 167.40-25 Signaling lamp.

Nautical school ships of over 150 gross tons shall be equipped with an efficient signaling lamp. This lamp shall be permanently fixed above the bridge and equipped with a Fresnel lens and high-speed bulb, operated by a weatherproof key, fitted with a suitable condenser. The lamp shall be so connected that it can be operated from the normal source of the nautical school ship's current, the emergency source, and other emergency batteries if provided.

§ 167.40-30 Guards and rails.

On nautical school ships all exposed and dangerous places, such as gears and machinery shall be properly protected with covers, guards, or rails, in order that the danger of accidents may be minimized. On nautical school ships equipped with radio (wireless) the lead-ins shall be efficiently incased or insulated to insure the protection of persons from accidental shock. Such lead-ins shall be located so as not to interfere with the launching of lifeboats and life rafts.

§ 167.40-35 Motion-picture projectors.

(a) Motion-picture projectors of the 16 mm. or 8 mm. size, using only slow-burning films, need not be of an approved type and may be used without booths.

(b) Motion-picture projectors using the 35 mm. size, unless mounted on weather deck shall be used in booths, in accordance with § 72.05-60 of Subchapter H (Passenger Vessels) of this chapter or applicable Navy specifications.

[CGFR 51-11, 16 FR 3218, Apr. 12, 1951, as amended by CGFR 52-43, 17 FR 9543, Oct. 18, 1952]

§ 167.40-40 Radar.

All mechanically propelled vessels of 1,600 gross tons and over in ocean or coastwise service must be fitted with a marine radar system for surface navigation. Facilities for plotting radar readings must be provided on the bridge.

[CG FR 75-074, 42 FR 5964, Jan. 31, 1977]

§ 167.40-45 Magnetic compass and gyrocompass.

(a) All mechanically propelled vessels in ocean or coastwise service must be fitted with a magnetic compass.

(b) All mechanically propelled vessels of 1,600 gross tons and over in ocean or coastwise service must be fitted with a gyrocompass in addition to the magnetic compass.

(c) Each vessel must have an illuminated repeater for the gyrocompass required under paragraph (b) that is at the main steering stand unless the gyrocompass is illuminated and is at the main steering stand.

[CFD 75-074, 42 FR 5964, Jan. 31, 1977]

Subpart 167.43—Work Vests

SOURCE: CGFR 59-22, 24 FR 4962, June 18, 1959, unless otherwise noted.

§ 167.43-1 Application.

(a) Provisions of this subpart shall apply to all vessels inspected and certificated in accordance with this subchapter.

§ 167.43-5 Approved unicellular plastic foam work vest.

(a) Buoyant work vests carried under the permissive authority of this subpart shall conform to the specifications contained in Subpart 160.053 in Subchapter Q (Specifications) of this chapter.

§ 167.43-10 Use.

(a) Approved buoyant work vests are considered to be items of safety apparel and may be carried aboard vessels to be worn by crew members when working near or over the water under favorable working conditions. They shall be used under the supervision and control of designated ship's officers. When carried, such vests shall not be accepted in lieu of any portion of the required number of approved life preservers and shall not be substituted for the approved life preservers required to be worn during drills and emergencies.

§ 167.43-15 Shipboard stowage.

(a) The approved buoyant work vests shall be stowed separately from the regular stowage of approved life preservers.

(b) The locations for the stowage of work vests shall be such as not to be easily confused with that for approved life preservers.

§ 167.43-20 Shipboard inspections.

(a) Each work vest shall be subject to examination by a marine inspector to determine its serviceability. If found to be satisfactory, it may be continued in service, but shall not be stamped by a marine inspector with a Coast Guard stamp. If a work vest is found not to be in a serviceable condition, then such work vest shall be removed from the vessel. If a work vest is beyond repair, it shall be destroyed or mutilated in the presence of a marine inspector so as to prevent its continued use as a work vest.

Subpart 167.45—Special Firefighting and Fire Prevention Requirements

§ 167.45-1 Steam and inert-gas fire extinguishing systems.

(a) *General requirements.* (1) Nautical school ships shall be provided with an inert-gas fire-extinguishing system when required.

(2) All nautical school ships carrying combustible cargo in the holds, between decks, or other closed cargo compartments shall be equipped with means for extinguishing fire in such compartments by the use of any inert-gas fire-extinguishing system approved by the Coast Guard or Navy. However, in specific cases where by reason of the design, such compartments are normally accessible and considered to be part of the working or living quarters, a water sprinkling system may be installed in lieu of an inert-gas fire-extinguishing system. On such vessels contracted for prior to January 1, 1962, a steam smothering system may be accepted in lieu of the inert gas system for the protection of cargo holds, paint lockers, and similar spaces. However, although existing steam smothering systems may be repaired, replaced, or extended, no new systems contracted for on or after January 1, 1962, will be permitted.

(3) Cabinets, boxes, or casings inclosing manifolds or valves shall be distinctly marked in painted letters about 3 inches in height, "Steam Fire Apparatus," or "CO_2 Fire Apparatus," as the case may be.

(4) Steam or gas piping fitted for extinguishing fire shall not be used for any other purpose except that it may be used for fire-detecting purposes.

(5) Pipes for conveying steam from the boilers for the purpose of extinguishing fire shall not be led into the cabins, other living spaces, or working spaces. Pipes for conveying carbon dioxide or other extinguishing vapors for the purpose of extinguishing fire shall not be led into the cabins or other living spaces.

(6) Steam smothering lines shall be tested with at least 50 pounds air pressure with ends of the smothering lines capped, or by blowing steam through the lines, and a survey made for de-

tecting corrosion and defects, using the hammer test or such other means as may be necessary.

(7) At annual inspections, all carbon dioxide (CO_2) cylinders, whether fixed or portable, shall be examined externally and replaced if excessive corrosion is found; and all cylinders shall also be checked by weighing to determine contents and if found to be more than 10 percent under required contents of carbon dioxide, the same shall be recharged.

(8) Carbon dioxide cylinders carried on board nautical school ships shall be tested and marked in accordance with the regulations noted in § 147.04-1 of Subchapter N (Explosives or Other Dangerous Articles or Substances and Combustible Liquids on Board Vessels) of this chapter. However, cylinders continuously installed aboard a vessel need not be removed, tested, and marked more frequently than once in each 12 years.

(9) Regarding the limitations on the use of steam smothering in subparagraph (2) of this paragraph, this does not preclude the introduction of steam into such confined spaces as boiler casings or into tanks for steaming out purposes. Such installations are not to be considered as part of any required fire extinguishing system.

(b) *Steam systems.* (1) As noted in subparagraph (a)(2) of this section, steam smothering systems are not permitted on nautical school ships contracted for on or after January 1, 1962, nor for new installations on vessels contracted for prior to that date. Where steam smothering systems are installed, the provisions of this paragraph shall be met.

(2) Steam for fire-extinguishing systems shall be available at a suitable pressure from the main boilers or a donkey or auxiliary boiler.

(3) The pipe lines shall be led from not more than three stations in easily accessible locations on the weather deck to each cargo hold, cargo 'tween-decks, or other closed cargo compartments, and to each cargo-oil deep tank, lamp locker, oil room, and like compartments, which lamp locker, oil room, and like compartments, shall be wholly and tightly lined with metal. The steam connections to the lamp lockers, oil rooms, and like compartments may be taken from the nearest steam supply line, independent of the extinguishing manifolds. In lamp lockers, oil rooms, and like compartments, adequate means may be provided for ventilation if suitable dampers capable of being operated from outside the spaces are fitted in each vent duct.

(4) Each pipe in the extinguishing manifolds shall be fitted with a shut-off valve plainly and permanently marked to indicate into which compartment it discharges. This requirement also applies to independent extinguishing lines.

(5) Manifold steam supply pipes shall be fitted with master valves at the manifolds, and provision shall be made for draining the manifold and individual lines to protect them against freezing. If the manifolds are located on an open deck, they shall be enclosed in a metal box.

(6) The minimum diameter of any steam fire-extinguishing pipe to a cargo hold, cargo 'tween-decks, other closed cargo compartments, or cargo-oil deep tank shall be one inch, the size and number of pipes to be governed by the size of the compartment. The minimum diameter of any steam fire-extinguishing pipe to a lamp locker, oil room, or like compartments, shall be three-fourths of an inch.

(c) *Inert-gas systems.* (1) When a carbon dioxide (CO_2) smothering system is fitted in the cargo hold, cargo 'tween-decks, or other closed cargo compartments, or cargo-oil deep tanks, the quantity of carbon dioxide shall be sufficient to give a gas saturation of 30 percent of the gross volume of the largest cargo hold. The quantity in pounds of carbon dioxide required may be determined approximately by the following formula:

$$W = L \times B \times D \div 30 \qquad (1)$$

where:

W = the weight of CO_2 required, in pounds.
L = the length of the hold, in feet.
B = the mean breadth of the hold, in feet.
D = the depth from tank top or flat forming lower boundary to top of uppermost space in which freight may be carried, in feet.

(2) When a carbon dioxide (CO_2) smothering system is fitted in the lamp locker, oil room, or like compartments, the quantity in pounds of carbon dioxide required may be determined by dividing the gross volume of the space by a factor of 22. Lamp lockers, oil rooms, and like compartments, in all classes of vessels, shall be wholly and tightly lined with metal. The whole charge of gas shall be capable of being released simultaneously by operating one valve and control, and all cylinders shall be completely discharged in not more than two minutes.

(3) Pipes used for supplying carbon dioxide to the cargo holds, cargo 'tween-decks, other closed cargo compartments, and cargo-oil deep tanks shall be not less than three-fourths inch inside diameter. Pipes used for supplying carbon dioxide to lamp lockers, oil rooms, and like compartments shall not be less than one-half inch inside diameter.

(4) The control(s) releasing the inert gas shall be located in a position(s) outside the space(s) protected and shall be readily accessible when the vessel is being navigated. All valves shall be permanently marked to indicate into which compartment they discharge. A space which is protected by a carbon dioxide extinguishing system, and is normally accessible to crew while the nautical school ship is being navigated shall be fitted with an approved audible alarm in such space, which will be automatically sounded when the carbon dioxide is admitted to the space.

(5) Provisions shall be made to prevent the admission of air into the lower parts of cargo holds, cargo 'tween-decks, and other closed cargo compartments while the inert-gas system is in operation.

(6) Cylinders, piping, and controls for the inert-gas system shall be protected from damage and shall be securely fastened and supported.

[CGFR 51-11, 16 FR 3218, Apr. 12, 1951, as amended by CGFR 54-46, 19 FR 8708, Dec. 18, 1954; CGFR 61-15, 26 FR 9303, Sept. 30, 1961; CGFR 65-9, 30 FR 11494, Sept. 8, 1965]

§ 167.45-5 Steam fire pumps or their equivalent.

(a) All nautical school ships shall be equipped with fire pumps.

(b) Nautical school ships of 100 gross tons and under shall be equipped with one hand fire pump with a pump-cylinder capacity not less than 100 cubic inches, or a power-driven pump of equivalent discharge capacity.

(c) Nautical school ships over 100 gross tons shall be equipped with fire pumps and piping as follows:

(1) All nautical school ships shall be provided with powerful pumps available for use as fire pumps. When of less than 1,000 gross tons it shall have 1, and when larger it shall have at least 2 independently driven pumps connected to the fire main. Each pump shall be capable of delivering two powerful jets of water simultaneously from the highest outlets on the fire main at a Pitot tube pressure of approximately 50 pounds per square inch.

(2) On oil-burning nautical school ships, where two pumps are required, they may be located in the same compartment, if the compartment is equipped with an approved fixed carbon dioxide extinguishing system.

(d) Outlets from the fire mains shall be of a sufficient number and so arranged that any part of the living quarters, weather decks and any part of cargo decks, accessible to crew, while the nautical school ship is being navigated, may be reached with a single 50-foot length of hose. Outlets within accommodations and service spaces adjacent thereto shall comply with the above or they may be so arranged that any part may be reached with a single 75-foot length of hose provided a siamese connection is fitted at each outlet. Where the fire main is located on an exposed deck, branches shall be provided so that the hose connections necessary to comply with the foregoing be distributed on both sides of the nautical school ship. The fire hose shall be connected to the outlet at all times, except on open decks where the location of the fire hydrants is such that no protection is afforded for the hose in heavy weather. The fire hose may be temporarily removed from the hydrant when it will interfere with the handling of cargo.

(e) Outlet openings shall have a diameter of not less than 1½ inches and shall be fitted with suitable hose connections and spanners. The arrangement of the fire hydrant shall be limited to any position from the horizontal to the vertical pointing downward, so that the hose will lead downward or horizontally, in order to minimize the possibility of kinking. In no case will a hydrant arranged in a vertical position with the outlet pointing upward be accepted.

(f) Fire pumps shall be fitted on the discharge side with relief valves set to relieve at 25 pounds higher than the pressure necessary to maintain the requirements of paragraph (c)(1) of this section and a pressure gage to indicate the pressure on the fire main. If the fire pumps operating under shut-off conditions are not capable of producing a pressure exceeding 125 pounds per square inch, the relief valve may be omitted.

(g) Each section of fire hose used after January 1, 1980 must be lined commercial fire hose that conforms to Underwriters' Laboratories, Inc. Standard 19 or Federal Specification ZZ-H-451E. Hose that bears the label of Underwriters' Laboratories, Inc. as lined fire hose is accepted as conforming to this requirement. Each section of replacement fire hose or any section of new fire hose placed aboard a vessel after January 1, 1977 must also conform to the specification required by this paragraph.

(h) Each fire hydrant must have at least one length of firehose. Each firehose on the hydrant must have a combination solid stream and water spray firehose nozzel that is approved under Subpart 162.027 of this chapter.

(46 U.S.C. 390b, 481, and 391a; 49 U.S.C. 1655(b)(1); and 49 CFR 1.46(b) and 49 CFR 1.46(n)(4))

[CGFR 51-11, 16 FR 3218, Apr. 12, 1951, as amended by CGFR 60-36, 25 FR 10642, Nov. 5, 1960; CGD 74-60, 41 FR 43152, Sept. 30, 1976; CGD 76-086, 44 FR 2394, Jan. 11, 1979]

§ 167.45-10 Couplings on fire hose.

The couplings on fire hose shall be of brass, copper, or composition material. All hydrants shall be provided with suitable spanners.

§ 167.45-15 Capacity of pipes and hose.

The capacity of the pipes and hose leading from the pumps shall in no case be less than that of the discharge opening of the pump: *Provided, however,* That the pipe and hose shall in no instance be less than 1½ inches in internal diameter.

§ 167.45-20 Examination and testing of pumps and fire-extinguishing equipment.

The inspectors will examine all pumps, hose, and other fire apparatus and will see that the hose is subjected to a pressure of 100 pounds to the square inch at each annual inspection and that the hose couplings are securely fastened.

§ 167.45-25 Fire mains and hose connections.

All pipes used as mains for conducting water from fire pumps on nautical school ships shall be of steel, wrought iron, brass, or copper with wrought iron brass, or composition hose connections.

§ 167.45-30 Use of approved fire-fighting equipment.

Portable fire extinguishers or fire-extinguishing systems which conform to the specifications of the Navy or Coast Guard, or their approved equivalent, may be accepted for use on nautical school ships.

§ 167.45-40 Fire-fighting equipment on nautical school ships using oil as fuel.

Steam-propelled nautical school ships burning oil for fuel shall be fitted with the fire-fighting equipment of the following type and character:

(a) In each fire room a metal receptacle containing not less than 10 cubic feet of sand, sawdust impregnated with soda, or other approved dry materials, and scoop or shaker for distributing it: *Provided,* That a nautical school ship of 1,000 gross tons and under using oil as fuel, shall be fitted with a metal receptacle, containing not less than 5 cubic feet of sand, sawdust impregnated with soda or other approved dry material, and scoop or shaker for distributing it.

(b) In each boiler room and in each of the machinery spaces of a nautical school ship propelled by steam, in which a part of the fuel-oil installation is situated, two or more approved fire extinguishers of the foam type of not less than 2½ gallons each or two or more approved fire extinguishers of the carbon dioxide (CO_2) type of not less than 15 pounds each shall be placed where accessible and ready for immediate use: *Provided*, That on a nautical school ship of 1,000 gross tons and under only one of the fire extinguishers may be required.

(c) In boiler and machinery spaces, at least two fire hydrants must have a firehose of a length that allows each part of the boiler and machinery spaces to be reached by the combination nozzle.

(c-1) Before February 12, 1981, each firehose under paragraph (c) must have a combination solid stream and water spray nozzle and a low-velocity water spray applicator that are approved under Subpart 162.027 of this chapter, except if the nozzle or applicator has approvd under Subpart 162.027 of this chapter before May 26, 1965—

(1) The nozzle must have a high-velocity water spray timp that meets § 162.027-2(c) of this chapter, and the applicator must have a low-velocity water spray applicator that meets § 162.027-2(c) of this chapter; or

(2) The fire hydrant or nozzle must have a self-cleaning strainer that meets the requirements under which the nozzle was approved.

(c-2) After February 11, 1981, each new or replacement nozzle or applicator must be approved under Subpart 162.027 of this chapter.

(d) On every steam propelled nautical school ship of over 1,000 gross tons having one boiler room there shall be provided one fire extinguisher of the foam type of at least 40 gallons rated capacity or one carbon dioxide (CO_2) extinguisher of at least 100 pounds. If the nautical school ship has more than one boiler room, an extinguisher of the above type shall be provided in each boiler room. On every steam propelled nautical school ship of 1,000 gross tons and under, foam type fire extinguishers of at least 20 gallons rated capacity or carbon dioxide (CO_2) extinguishers of at least 50 pounds shall be used. Extinguishers fitted shall be equipped with suitable hose and nozzles on reels or other practicable means easy of access, and of sufficient length to reach any part of the boiler room and spaces containing oil-fuel pumping units.

(e) All nautical school ships propelled by internal-combustion engines shall be equipped with the following foam type or carbon dioxide type fire extinguishers in the machinery spaces:

(1) One approved 12-gallon foam-type extinguisher or one approved 35-pound carbon dioxide type extinguisher.

(2) One approved 2½-gallon foam-type, or one approved 15-pound carbon dioxide type extinguisher for each 1,000 B. H. P. of the main engines, or fraction thereof. The total number of fire extinguishers carried shall not be less than two and need not exceed six.

(3) When a donkey boiler fitted to burn oil as fuel is located in the machinery space, there shall be substituted for the 12-gallon foam type or 35-pound carbon dioxide type fire extinguisher required either one 40-gallon foam type or one 100-pound carbon dioxide type fire extinguisher.

(f) In this section any reference to an approved fire extinguisher means either approved by the Coast Guard or the Navy.

(46 U.S.C. 390b, 481, and 391a; 49 U.S.C. 1655(b)(1); and 49 CFR 1.46(b) and 49 CFR 1.46(n)(4))

[CGFR 51-11, 16 FR 3218, Apr. 12, 1951, as amended by CGD 76-086, 44 FR 2394, Jan. 11, 1979]

§ 167.45-45 Carbon dioxide fire-extinguishing system requirements.

(a) When a carbon dioxide (CO_2) smothering system is fitted in the boiler room, the quantity of carbon dioxide carried shall be sufficient to give a gas saturation of 25 percent of the gross volume of the largest boiler room from tank top to top of the boilers. Top of the boilers is to be considered as the top of the shell of a Scotch or leg type of boiler, and the top of the casing or drum, whichever is the higher, on water-tube boilers. The quantity of carbon dioxide required may be determined approximately by the following formula:

$$W = L \times B \times D \div 36 \qquad (1)$$

where:

W=the weight of CO_2 required in pounds.
L=the length of the boiler room in feet.
B=the breadth of the boiler room in feet.
D=the distance in feet from tank top or flat forming lower boundary to top of boilers.

(b) When a carbon dioxide (CO_2) smothering system is fitted in the machinery space of a nautical school ship propelled by internal combustion engines, the quantity of carbon dioxide required may be determined approximately by the following formula:

$$W = L \times B \times D \div 22 \qquad (2)$$

where:

W=the weight of CO_2 required in pounds.
L=the length of machinery space in feet.
B=breadth of the machinery space in feet.
D=distance in feet from tank top or flat forming lower boundary to the underside of deck forming the batch opening.

(c) The whole charge of gas shall be capable of being released simultaneously by operating one valve and control. All cylinders shall be completely discharged in not more than two minutes. The arrangement of the piping shall be such as to give a general and fairly uniform distribution over the entire area protected. An alarm which shall operate automatically with the operation of the system shall be provided to give a warning in the space when the carbon dioxide is about to be released. Provision shall be made to prevent the admission of air into the lower parts of the boiler or engine room while the system is in operation.

§ 167.45-50 Foam smothering system requirements.

(a) When a foam-type system is fitted, its capacity shall be such as to rapidly discharge over the entire area of the bilge (tank top) of the largest boiler room a volume of foam 6 inches deep in not more than 3 minutes. The arrangement of piping shall be such as to give a uniform distribution over the entire area protected.

(b) The foam-type system may be of a type approved by the Navy or Coast Guard. All containers and valves by which the system is operated shall be easily accessible and so placed that control valves and containers will not readily be cut off from use by an outbreak of fire.

§ 167.45-55 Fixed water spray system requirements.

(a) When a fixed system is fitted for spraying water on oil in bilges, its capacity shall be such as to blanket the entire area of the bilge (tank top) of the largest boiler room with an adequate supply of water.

(b) The arrangement of piping and nozzles shall be such as to give a uniform distribution over the entire area protected. The piping system for each space protected shall be one unit, unless otherwise specifically approved by the Commandant.

(c) All valves by which the system is operated shall be located outside of the space protected and shall be easily accessible. Suitable means shall be provided to prevent the passage of foreign substances into the spray nozzles.

(d) The primary source of supply for the system shall be from a pump or pumps of suitable capacity and pressure. The pump or pumps shall be reserved for this purpose only. This pump or pumps shall be located outside of space protected.

§ 167.45-60 Emergency breathing apparatus and flame safety lamps.

All nautical school ships shall be equipped with the following devices, approved by Coast Guard or Navy:

(a) One self-contained breathing apparatus.

(b) One supplied air respirator.

(c) One flame safety lamp.

(d) One gas mask of a type giving protection against refrigerant used on board the nautical school ship.

§ 167.45-65 Portable fire extinguishers in accommodation spaces.

(a) All nautical school ships shall be provided with such number of good and efficient portable fire extinguishers approved by the Navy or Coast Guard as follows:

(1) Nautical school ships less than 150 feet in length shall have at least two fire extinguishers on each passenger deck.

(2) Nautical school ships 150 feet and over in length shall be provided with at least one fire extinguisher for every 150 linear feet of corridor length or fraction thereof in the spaces occupied by passengers and crew.

(3) In all public spaces fire extinguishers shall be located not more than 150 feet apart.

(b) The number of required fire extinguishers is based on the capacity of the ordinary fire extinguisher, which is about 2½ gallons, and no fire extinguisher of larger capacity shall be allowed a greater rating than that of the ordinary fire extinguisher. Fire extinguishers of approved types of less capacity are allowable when their total contents equal the required quantity.

§ 167.45-70 Portable fire extinguishers, general requirements.

(a) Extra charges shall be carried on board for 50 percent of each size and variety of fire extinguishers provided. If 50 percent of each size and variety of fire extinguishers carried gives a fractional result, extra charges shall be provided for the next largest whole number.

(1) The following is an example:

Fire extinguishers carried	*Extra charges required*
1	1
2	1
3	2
4	2
5	3

(2) When the portable fire extinguisher is of such variety that it cannot be readily recharged by the vessel's personnel, one spare unit of the same classification shall be carried in lieu of spare charges for all such units of the same size and variety.

(b) Recharges, particularly the acid, used in charging soda-and-acid type of fire extinguishers, shall be packed in such manner that the filling operation (i.e., in recharging the extinguisher) can be performed without subjecting the person doing the recharging to undue risk of acid burns and shall be contained in Crown stopper type of bottle.

(c) [Reserved]

(d) Fire extinguishers shall be located in such places as in the judgment of the Officer in Charge, Marine Inspection, will be most convenient and serviceable in case of emergency and so arranged that they may be easily removed from their fastenings.

(e) Every fire extinguisher provided shall be examined at each annual inspection to determine that it is still in good condition. Soda-and-acid and foam fire extinguishers shall be tested by discharging the contents, cleaning thoroughly, and then refilling. Carbon dioxide fire extinguishers shall be checked by weighing to determine contents and if found to be more than 10 percent under required contents of carbon dioxide shall be recharged. Pump tank fire extinguishers shall be tested by pumping and discharging the contents, cleaning thoroughly, and then refilling or recharging. Cartridge-operated type fire extinguishers shall be checked by examining the extinguishing agents to determine if in still good condition and by examining the pressure cartridge. If the cartridge end is punctured, or it the cartridge is otherwise determined to have leaked or to be in an unsuitable condition, the pressure cartridge shall be rejected and a new one inserted. Stored pressure type extinguishers shall be checked by determining that the pressure gage is in the operating range, and the full charge of extinguishing agent is in the chamber. The hoses and nozzles of all fire extinguishers shall be inspected to see that they are clear and in good condition.

[CGFR 51-11, 16 FR 3218, Apr. 12, 1951, as amended by CGFR 54-46, 19 FR 8708, Dec. 18, 1954; CGFR 59-21, 24 FR 7196; Sept. 5, 1959; CGFR 60-17, 25 FR 2667, Mar. 30, 1960; CGFR 62-17, 27 FR 9047, Sept. 11, 1962]

§ 167.45-75 Fire extinguishers for emergency powerplants.

In compartments where emergency lighting and wireless units are located, two fire extinguishers approved by the Coast Guard or the Navy, of either carbon dioxide or dry chemical type, shall be permanently located at the most accessible points. In addition, two fire extinguishers of the above types, or foam type, shall be permanently located so as to be readily accessible to the emergency fuel tanks containing gasoline, benzine or naphtha. Carbon tetrachloride type fire extinguishers shall be removed on or before January 1, 1962. Existing installations of such extinguishers may be continued in use if in good and serviceable condition until the removal date.

[CGFR 58-29, 23 FR 6882, Sept. 6, 1958]

§ 167.45-80 Fire axes.

(a) All nautical school ships shall be provided with fire axes, as follows:

Gross tons of nautical school ships:	Number of axes
All not over 50 tons	1
All over 50 tons and not over 200 tons	2
All over 200 tons and not over 500 tons	4
All over 500 tons and not over 1,000 tons	6
All over 1,000 tons	8

(b) All fire axes shall be located so as to be readily found in time of need, shall not be used for general purposes, and shall be kept in good condition.

Subpart 167.50—Accommodations

§ 167.50-1 Hospital accommodations.

Each nautical school ship, which makes voyages of more than 3 days' duration between ports and carries 12 or more persons, shall be equipped with a compartment suitably separated from other spaces for hospital purposes, and such compartment shall have at least 1 bunk for every 12 persons allowed to be carried: *Provided*, That not more than 6 bunks shall be required in any case.

Subpart 167.55—Special Markings Required

§ 167.55-1 Draft marks.

Every nautical school ship of 50 gross tons and over, shall have its draft plainly and legibly marked upon the stem and upon the sternpost or rudderpost or at such other place at the stern of the vessel as may be necessary for easy observance. The draft shall be taken from the bottom of the lowest part of the keel to the surface of the water, the bottom of the mark to indicate the draft in feet.

§ 167.55-5 Marking of fire and emergency equipment, etc.

Marking of fire and emergency apparatus, watertight doors, lifeboat embarkation stations and direction signs, stateroom notices, instructions for changing steering gears, etc., shall be carried out as follows:

(a) *General alarm bell switch.* The general alarm bell switch in the pilothouse or fire control station shall be clearly marked with lettering on a brass plate or with a sign in red letters on suitable background: "General Alarm."

(b) *General alarm bells.* General alarm bells shall be marked in not less than ½-inch red letters: "General Alarm—When Bell Rings Go to Your Station."

(c) *Steam, foam or CO_2 fire smothering* apparatus. Steam, foam or CO_2 fire smothering apparatus shall be marked "Steam Fire Apparatus" or "Foam Fire Apparatus" or "CO_2 Fire Apparatus", as appropriate, in not less than 2-inch red letters. The valves of all branch piping leading to the several compartments shall be distinctly marked to indicate the compartments or parts of the nautical school ship to which they lead.

(d) *Fire hose stations.* At each fire hose valve there shall be marked in not less than 2-inch red letters and figures "Fire Station 1," 2, 3, etc.

(e) *Emergency squad equipment.* Lockers or spaces containing equipment for use of the emergency squad shall be marked "Emergency Squad Equipment." Lockers or spaces where oxygen or fresh air breathing apparatus is stowed shall be marked "Oxygen Breathing Apparatus" or "Fresh Air Breathing Apparatus," as appropriate.

(f) *Fire extinguishers.* Each fire extinguisher shall be marked with a number and the location where stowed shall be marked in corresponding numbers in not less than 1-inch figures.

(g) *Watertight doors.* Each watertight door shall be numbered in at least 2-inch letters and figures

"W.T.D. 1," 2, 3, etc. The color of the marking shall be in contrast to the background. All watertight door remote hand-closing stations shall be marked in at least 2-inch letters and figures "W. T. D. 1," 2, 3, etc. The direction of operation of the lever or wheel provided to close or open the door at all watertight door remote hand-closing stations shall be marked. The color of the sign shall contrast with the background.

(h) *Instructions for changing steering gear.* Instructions in at least ½-inch letters and figures shall be posted at each emergency steering station and in the steering engine room, relating in order, the different steps to be taken in changing to the emergency steering gear. Each clutch, gear wheel, level, valve, or switch which is used during the changeover shall be numbered or lettered on a brass plate or painted so that the markings can be recognized at a reasonable distance. The instructions shall indicate each clutch or pin to be "in" or "out" and each valve or switch which is to be "opened" or "closed" in shifting to any means of steering for which the vessel is equipped. Instructions shall be included to line up all steering wheels and rudder amidship before changing gears.

(i) *Rudder orders.* At all steering stations, there shall be installed a suitable notice on the wheel or device or at such other position as to be directly in the helmsman's line of vision, to indicate the direction in which the wheel or device must be turned for "right rudder" and for "left rudder."

(j) *Nautical school ship's name on equipment.* (1) All lifeboats, rigid type oars and paddles, life preservers, EPIRB, life buoys, fire hose, and axes shall be painted or branded with the name of the nautical school ship.

(2) There shall be stenciled in a conspicuous place in the immediate vicinity of each inflatable life raft the following:

INFLATABLE LIFE RAFT NO. ———

——— PERSONS CAPACITY

These markings shall not be placed on the inflatable life raft containers.

NOTE: See § 167.35-2(e) (2) and (3) and § 160.051-8 of this chapter for required markings on an inflatable liferaft and a liferaft's container.

(49 CFR 1.4(b)(1)(ii) and 1.46(b))

[CGFR 51-11, 16 FR 3218, Apr. 12, 1951, as amended by CGFR 54-46, 19 FR 8708, Dec. 18, 1954; CGFR 60-36, 25 FR 10642, Nov. 5, 1960; CGD 73-24R, 39 FR 10139, Mar. 18, 1974; CGD 75-040, 40 FR 58454, Dec. 17, 1975]

Subpart 167.60—Certificates of Inspection

§ 167.60-1 Issuance by Officer in Charge, Marine Inspection.

(a) Every nautical school ship shall be inspected annually and if in the opinion of the Officer in Charge, Marine Inspection, the nautical school ship can be operated safely, he shall issue a certificate of inspection with the following indorsement: "Nautical School Ship" in lieu of the classification "Passenger vessel", "cargo vessel", etc.

(b) When a nautical school ship, in the opinion of the Officer in Charge, Marine Inspection, may be navigated on the waters of any ocean or the Gulf of Mexico more than 20 nautical miles offshore, the route shall be designated on certificate of inspection as "Ocean".

(c) When a nautical school ship, in the opinion of the Officer in Charge, Marine Inspection, may be navigated on the waters of any ocean or the Gulf of Mexico 20 nautical miles or less offshore, the route shall be designated on the certificate of inspection as "Coastwise".

(d) Documented vessels of 500 gross tons or more, certificated for ocean or coastwise service, which do not comply with the requirements of SOLAS 60 for cargo vessels shall have their certificate of inspection endorsed "Domestic Voyages Only."

[CGFR 51-11, 16 FR 3218, Apr. 12, 1951, as amended by CGFR 69-127, 35 FR 9982, June 17, 1970]

§ 167.60-5 Period of time for which valid.

A certificate of inspection for any period less than one year shall not be issued, but nothing herein shall be construed as preventing the revocation or suspension of a certificate of inspection in case such process is authorized by law.

§ 167.60-10 Exhibition of certificate of inspection.

On every nautical school ship, the original certificate of inspection shall be framed under glass and posted in a conspicuous place.

§ 167.60-15 Manning and persons allowed to be carried.

The Officer in Charge, Marine Inspection, shall specify in the Certificate of Inspection the minimum complement of officers and crew necessary for the safe navigation of the vessel and shall specify the total number of persons allowed to be carried.

[41 FR 19647, May 13, 1976]

Subpart 167.65—Special Operating Requirements

§ 167.65-1 Station bills, drills, and log book entries.

(a) *Station bills and muster lists.* It shall be the duty of the master of every nautical school ship to cause station bills and muster lists to be prepared before the nautical school ship sails, which shall be signed by the master who shall be responsible for their preparation. The station bills and muster lists shall be posted in conspicuous places in several parts of the nautical school ship, particularly in the quarters, and must contain full particulars of the signals which will be used for calling all persons to their stations for emergency duties. Special duties shall be allotted to each person and the muster lists shall show all these special duties and indicate the station to which each man must go and the duties he has to perform. The special duties should, as far as possible, be comparable to the regular work of the individual. When practicable, several members of the crew shall be designated as an emergency squad and required to report to the bridge with certain equipment for instructions. The duties provided for by the muster lists should include:

(1) The closing of airports, watertight doors, fire doors, and fire screens, the covers and all valves of all scuppers, sanitary and other discharges which lead through the ship's hull below the margin line, and stopping the fans and ventilating systems.

(2) The extinction of fire.

(3) The equipment of boats, rafts, and buoyant apparatus and their preparation for launching.

(4) The muster of all persons aboard.

(b) *Emergency signals*—(1) *Fire alarm signals.* (i) The general fire alarm signal shall be a continuous rapid ringing of the ship's bell for a period not less than 10 seconds supplemented by the continuous ringing of the general alarm bells for not less than 10 seconds.

(ii) For dismissal from fire-alarm stations, the general alarm bells shall be sounded three times, supplemented by three short blasts of the whistle.

(2) *Boat station or boat drill signals.* (i) The signal for boat drill or boat stations shall be more than six short blasts and one long blast of the whistle, supplemented by the same signal on the general alarm bells.

(ii) Where whistle signals are used for handling boats, they shall be as follows:

(*a*) To lower boats, one short blast of the whistle.

(*b*) To stop lowering the boats, two short blasts of the whistle.

(*c*) For dismissal from boat stations, three short blasts of the whistle.

(3) *Other emergency signals.* The master of any vessel may establish such other emergency signal, in addition to the above, so that all persons will have positive and certain notice of the existing emergency. The signals used for the assembly of the emergency squad should not conflict with the navigational signals or the signals used for a general alarm.

(c) *Drills, tests, and inspection.* (1) It shall be the duty of the master or the mate or officer in command, once at least in each week, to call all hands to quarters and exercise them, weather permitting, in the unlashing and swinging out of the lifeboats, the closing of all hand or power-operated watertight doors which are in use at sea, closing all fire doors and fire screens, the use of fire pumps and all other apparatus for the safety of life on board of such vessels, with special regard for the drill of the crew in the method of adjusting life preservers and educating others in this procedure, and to see that all the equipments required by law are in complete working order for immediate use; the fact of exercise of the crew, as herein contemplated, shall be entered in the log book.

(2) The requirements relating to fire and boat drills contemplate that such drills shall be conducted precisely as though an emergency existed. To accomplish the purpose of this section, lifeboat covers and strongbacks shall be removed, plugs or caps put in place, boat ladders secured in position for use, painters carried forward and tended so as to provide a good lead and slack to hold the boat in position under the davits when in the water. The person in charge of each lifeboat or life raft should have a list of its crew and should see that the men under his orders are acquainted with their several duties. The hand pumps and fire pumps shall be operated long enough and a sufficient number of outlets used to insure that such equipment is in order and effectual. The motor and the hand-operated propeller gear of each lifeboat shall be operated for a period of not less than 5 minutes once at least in every 7 days, in order that it may be ready for service at any time. Such operation shall be a part of the lifeboat drill and the fact of such operation shall be made a part of the report of such drill. When emergency breathing apparatus, such as gas masks, or other special equipment is carried, certain members of the crew shall be trained in the use of the equipment.

(3) The master shall ensure that—

(i) The EPIRB required in § 167.35-72 is tested monthly, using the integrated test circuit and output indicator, to determine that it is operative; and

(ii) The EPIRB's battery is replaced after the EPIRB is used and before the date required by FCC regulations in 47 CFR Part 83 to be marked on the outside of the EPIRB.

(4) The master shall ensure that each personal flotation device light that has a non-replaceable power source is replaced on or before the expiration date of the power source.

(5) The master shall ensure that—

(i) each replaceable power source for a personal flotation device light is replaced on or before its expiration date; and

(ii) the light is replaced when it is no longer serviceable.

(d) *Log book entries.* The entries in the log book relating to the exercise of the crew in fire and boat drills shall state the day of the month and the hour when so exercised, length of time of the drill, number on the boats swung out, number of lengths of hose used, together with a statement of the condition of all fire and lifesaving apparatus, watertight door mechanism, valves, etc.

(49 CFR 1.4(b)(1)(ii) and 1.46(b); U.S.C. 375, 390b, 391a, 416, 481, 526p, 1454, and 1488; 49 U.S.C. 1655(b); 50 U.S.C. 198; and 49 CFR 1.46)

[CGFR 51-11, 16 FR 3218, Apr. 12, 1951, as amended by CGD 73-24R, 39 FR 10140, Mar. 18, 1974; CGD 76-028, 44 FR 38788, July 2, 1979]

§ 167.65-3 Reckless or negligent operation prohibited by law.

Section 12(d) of the Federal Boat Safety Act of 1971 (46 U.S.C. 1461(d)) reads as follows:

No person may use a vessel, including one otherwise exempted by section 4(c) of this Act (46 U.S.C. 1453(c)), in a negligent manner so as to endanger the life, limb, or property of any person. Violations of this subsection involving use which is grossly negligent, subject the violator, in addition to any other penalties prescribed in this Act, to the criminal penalties prescribed in section 34 (46 U.S.C. 1483).

[CGD 77-052, 42 FR 56332, Oct. 25, 1977]

§ 167.65-5 Flashing the rays of a searchlight or other blinding light.

Flashing the rays of a searchlight or other blinding light onto the bridge or into the pilothouse of any vessel under way is prohibited.

§ 167.65-10 Unauthorized lights.

Any master or pilot of a nautical school ship shall not authorize or permit the carrying of any light, electric or otherwise, not required by law that in any way will interfere with distinguishing the lights required to be carried.

§ 167.65–15 Routing instructions; strict compliance with.

Due to existing mine field dangers, all masters, officers, and seamen on nautical school ships shall comply strictly with the routing instructions issued by competent naval authority. Nothing herein shall be construed as relieving the master of the responsibility for the safety of his nautical school ship.

§ 167.65–20 Unnecessary whistling.

Unnecessary sounding of a nautical school ship's whistle is prohibited within any harbor limits of the United States.

§ 167.65–25 Steering gear tests.

On all nautical school ships making voyages of more than 48 hours' duration, the entire steering gear, the whistle, the means of communication and the signaling appliances between the bridge or pilothouse and engine room shall be examined and tested by an officer of the nautical school ship within a period of not more than 12 hours before leaving port. All nautical school ships making voyages of less than 48 hours' duration shall be so examined and tested at least once in every week. The fact and time of such examination and test shall be recorded in the log book.

§ 167.65–30 Steering orders.

(a) "Right rudder" shall be given only when it is intended that the wheel, the rudder blade, and the head of the nautical school ship should go to the right.

(b) "Left rudder" shall be given only when it is intended that the wheel, the rudder blade, and the head of the nautical school ship should go to the left.

(c) Where rudder indicators are provided, they shall be installed consistent with the foregoing.

§ 167.65–35 Use of auto pilot.

Except as provided in 33 CFR 164.15, when the automatic pilot is used in—

(a) Areas of high traffic density;

(b) Conditions of restricted visibility; and

(c) All other hazardous navigational situations, the master shall ensure that—

(1) It is possible to immediately establish human control of the ship's steering;

(2) A competent person is ready at all times to take over steering control; and

(3) The changeover from automatic to manual steering and vice versa is made by, or under, the supervision of the officer of the watch.

[CFR 75-074, 42 FR 5964, Jan. 17, 1977]

§ 167.65–40 Draft.

The master of every nautical school ship over 50 gross tons shall, whenever leaving port, enter the maximum draft of his nautical school ship in the log book.

§ 167.65–45 Notice to mariners; aids to navigation.

(a) Officers are required to acquaint themselves with the latest information published by the Coast Guard and the U.S. Navy regarding aids to navigation, and neglect to do so is evidence of neglect of duty. It is desirable that nautical school ships navigating oceans and coastwise and Great Lakes waters shall have available in the pilothouse for convenient reference at all times a file of the applicable Notice to Mariners.

(b) Weekly Notices to Mariners (Great Lakes Edition), published by the Commander, 9th Coast Guard District, contain announcements and information on changes in aids to navigation and other marine information affecting the safety of navigation on the Great Lakes. These notices may be obtained free of charge, by making application to Commander, 9th Coast Guard District.

(c) Weekly Notices to Mariners (Worldwide coverage) are prepared jointly by the U.S. Naval Oceanographic Office, the U.S. Coast and Geodetic Survey and the U.S. Coast Guard. They include changes in aids to navigation in assembled form for the 1st, 3d, 5th, 7th, Greater Antilles

Section, 8th, 11th, 12th, 13th, 14th, and 17th Coast Guard Districts. Foreign marine information is also included in these notices. These notices are available without charge from the U.S. Naval Oceanographic Office, Washington, D.C. 20390, Branch Oceanographic Offices, U.S. Collector of Customs of the major seaports in the United States and are also on file in the U.S. Consulates where they may be inspected.

(d) As appropriate for the intended voyage, all nautical school ships must carry adequate and up-to-date—

(1) Charts;
(2) Sailing directions;
(3) Coast pilots;
(4) Light lists;
(5) Notices to mariners;
(6) Tide tables;
(7) Current tables; and
(8) All other nautical publications necessary.[1]

[CGFR 66-33; 31 FR 15298, Dec. 6, 1966, as amended by CGFR 75-074, 42 FR 5964, Jan. 31, 1977]

§ 167.65–50 Posting placards of lifesaving signals and breeches buoys instructions.

(a) A placard containing instructions for the use of breeches buoys and the lifesaving signals as set forth in Regulation 16, Chapter V, of the International Convention for Safety of Life at Sea, 1960 (Form CG-811), shall be posted in the pilothouse, engineroom, and in the seamen's, firemen's, and stewards' departments of every nautical school ship.

(b) The lifesaving signals as described in the placard shall be used by vessels or persons in distress when communicating with lifesaving stations and maritime rescue units.

[CGFR 65-16, 30 FR 10903, Aug. 21, 1965]

§ 167.65–55 Posting placards containing instructions for launching and inflating inflatable liferafts.

(a) Every vessel equipped with inflatable liferafts shall have posted in conspicuous places which are regularly accessible to the crew and/or passengers, approved placards containing instructions for launching and inflating inflatable liferafts for the information of persons on board. The number and location of such placards for a particular vessel shall be as determined by the Officer in Charge, Marine Inspection.

(b) Under the requirements contained in § 160.051-6(c)(1) of Subpart 160.051 in Subchapter Q (Specifications) of this chapter, the manufacturer of approved inflatable liferafts is required to provide approved placards containing such instructions with each liferaft.

[CGFR 65-9, 30 FR 11494, Sept. 8, 1965]

§ 167.65–60 Examination of boilers and machinery by engineer.

It shall be the duty of an engineer when he assumes charge of the boilers and machinery of a nautical school ship to examine the same forthwith and thoroughly, and if he finds any part thereof in bad condition, he shall immediately report the facts to the master, owner, or agent, and to the Officer in Charge, Marine Inspection, of the district, who shall thereupon investigate the matter and take such actions as may be necessary.

§ 167.65–65 Notice of casualty and voyage records.

(a) The owner, agent, master or person in charge of a vessel involved in a marine casualty shall give notice as soon as possible to the nearest Coast Guard Marine Safety or Marine Inspection Office whenever the casualty involves any of the following:

(1) All accidental groundings and any intentional grounding which also meets any of the other reporting criteria or creates a hazard to navigation, the environment, or the safety of the vessel;

(2) Loss of main propulsion or primary steering, or any associated component or control system, the loss of which causes a reduction of the maneuvering capabilities of the vessel. Loss means that systems, component parts, sub-systems, or control systems do not perform the specified or required function;

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[1] For United States vessels in one or on the navigable waters of the United States, see 33 CFR 164.33.

(3) An occurrence materially and adversely affecting the vessel's seaworthiness or fitness for service or route, including but not limited to fire, flooding, or failure or damage to fixed fire extinguishing systems, lifesaving equipment, auxiliary power generating equipment, or bilge pumping systems;

(4) Loss of life;

(5) Injury causing a person to remain incapacitated for a period in excess of 72 hours;

(6) An occurrence not meeting any of the above criteria but resulting in damage to property in excess of $25,000.00. Damage includes the cost necessary to restore the property to the service condition which existed prior to the casualty, including the cost of salvage, gas freeing, and dry dock. It does not include such items as demurrage.

(b) The notice required by this section must include the name and official number of the nautical school ship involved, the name of the ship's owner or agent, the nature and circumstances of the casualty, the locality in which it occurred, the nature and extent of injury to persons, and the damage to property.

(c) In addition to the notice required by paragraph (a) of this section, the person in charge of the nautical school ship shall, as soon as possible, report in writing and in person to the Officer in Charge, Marine Inspection, at the port in which the casualty occurred or nearest the port of first arrival: *Provided,* That when from distance it may be inconvenient to report in person it may be done in writing only. The written report required for personal accident shall be made on Form CG-924E and submitted for each individual injured and each loss of life. For all other vessel casualties the written report shall be made on Form CG-2692.

NOTE: If filed without delay, the Form CG-924E or CG-2692 may also provide the notice required by paragraph (a) of this section.

(d) The owner, agent, master, or other person in charge of any nautical school ship involved in a marine casualty shall retain such voyage records of the nautical school ship that are maintained, such as both rough and smooth deck and engine room logs, bell books, navigation charts, navigation work books, compass deviation cards, gyrocompass records, stowage plans, record of draft, aids to mariners, radiograms sent and received, the radio log, and lists of persons aboard. The owner, agent, master, or other officer in charge, shall make these records available to a duly authorized Coast Guard officer or employee for examination upon request.

(e) Whenever a nautical school ship collides with a lightship, buoy, or other aid to navigation under the jurisdiction of the Coast Guard, or is connected with any such collision, it shall be the duty of the person in charge of such nautical school ship to report the accident to the nearest Officer in Charge, Marine Inspection. No report on Form CG 2692 is required unless one of the results listed in paragraph (a) of this section occurs.

[CGFR 51-11, 16 FR 3218, Apr. 12, 1951, as amended by CGFR 61-26, 26 FR 5998, July 4, 1961; CDG 76-170, 45 FR 77443, Nov. 24, 1980]

§ 167.65-70 Reports of accidents, repairs, and unsafe boilers and machinery by engineers.

(a) Before making repairs to a boiler of a nautical school ship the engineer in charge shall report, in writing, the nature of such repairs to the nearest Officer in Charge, Marine Inspection, where such repairs are to be made.

(b) And it shall be the duty of all engineers when an accident occurs to the boilers or machinery in their charge tending to render the further use of such boilers or machinery unsafe until repairs are made, or when, by reason of ordinary wear, such boilers or machinery have become unsafe, to report the same to the Officer in Charge, Marine Inspection, immediately upon the arrival of the nautical school ship at the first port reached subsequent to the accident, or after the discovery of such unsafe condition by said engineer.

PART 168—CIVILIAN NAUTICAL SCHOOL VESSELS

Subpart 168.01—Authority and Purpose

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168.01-5 Assignment of functions.
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Subpart 168.05—General Requirements

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168.10-1 Vessel.
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Subpart 168.15—Accommodations

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168.15-40 Lighting.
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168.15-50 Ventilation.
168.15-55 Screening.
168.15-60 Inspection.

AUTHORITY: Sec. 3, 54 Stat. 347, as amended, sec. 6(b)(1), 80 Stat. 938; 46 U.S.C. 1333, 49 U.S.C. 1655(b); 49 CFR 1.4(a)(2).

SOURCE: CGFR 52-43, 17 FR 9543, Oct. 18, 1952, unless otherwise noted.

Subpart 168.01—Authority and Purpose

§ 168.01-1 Purpose of regulations.

(a) The purpose of the regulations in this part is to set forth uniform minimum requirements for vessels, whether being navigated or not, which are used by or in connection with any civilian nautical school, except vessels of the Navy or Coast Guard.

§ 168.01-5 Assignment of functions.

(a) The Department of Transportation Act (Public Law 89-670, 80 Stat. 931-950, 49 U.S.C. 1651-1659), transferred to and vested in the Secretary of Transportation * * * all functions, powers, and duties, relating to the Coast Guard, of the Secretary of the Treasury and of other officers and offices of the Department of the Treasury" (subsection 6(b)(1), 49 U.S.C. 1655(b)). This transfer is subject to certain conditions, modifications, and exceptions as set forth in such act. By a rule in 49 CFR 1.4(a) the Secretary of Transportation delegated to the Commandant, U.S. Coast Guard, authority to exercise certain functions, powers, and duties as set forth in subsections 6(a)(4), 6(b)(1), and 6(g) of such act (49 U.S.C. 1655), subject to conditions, exceptions and modifications as described in 49 CFR Part 1. By a rule in 49 CFR 1.9 the Secretary of Transportation continued in effect actions taken prior to April 1, 1967.

(b) The Commandant, U.S. Coast Guard, in a notice dated March 31, 1967, and effective April 1, 1967 (32 FR 5611), approved the continuation of orders, rules, regulations, policies, procedures, privileges, waivers, and other actions, which had been made, allowed, granted, or issued prior to April 1, 1967, and provided that they shall continue in effect according to their terms until modified, terminated, repealed, superseded, or set aside by appropriate authority.

[CGFR 68-32, 33 FR 5724, Apr. 12, 1968]

§ 168.01-10 Authority for regulations.

(a) The authority to prescribe regulations is in section 3 of the act of June 12, 1940, as amended (sec. 3, 54 Stat. 346, 46 U.S.C. 1333).

Subpart 168.05—General Requirements

§ 168.05-1 Application of passenger vessel inspection laws.

(a) All laws covering the inspection of passenger vessels are hereby made applicable to all vessels or other floating equipment used by or in connection with any civilian nautical school, whether such vessels or other floating equipment are being navigated or not, except vessels of the Navy or Coast Guard.

§ 168.05-5 Application of passenger vessel inspection regulations.

(a) Where the requirements are not covered specifically in this part, all the regulations applying to passenger vessels in Subchapter E (Load Lines), F (Marine Engineering), H (Passenger Vessels), J (Electrical Engineering), P (Manning), Q (Specifications), and T (Small Passenger Vessels) of this chapter are hereby made applicable to all vessels or other floating equipment used by or in connection with any civilian nautical school, whether such vessels or other floating equipment are being navigated or not, except vessels of the Navy or Coast Guard.

[CGFR 62-17, 27 FR 9047, Sept. 11, 1962]

Subpart 168.10—Definitions of Terms Used in This Part

§ 168.10-1 Vessel.

(a) The term "vessel" means any vessel, whether being navigated or not, which is used by or in connection with any civilian nautical school, except vessels of the Navy or Coast Guard.

§ 168.10-5 Civilian nautical school.

(a) The term "civilian nautical school" means any school or branch thereof operated and conducted in the United States (except State nautical schools and schools operated by the United States or any agency thereof) which offers to persons quartered on board any vessel instruction for the primary purpose of training for service in the merchant marine.

Subpart 168.15—Accommodations

§ 168.15-1 Intent.

(a) It is the intent of this subpart to provide minimum standards for the size, ventilation, plumbing, and sanitation of quarters assigned to the members of the crew, passengers, cadets, students, instructors, or any other persons at any time quartered on board any such vessel.

§ 168.15-5 Location.

(a) Quarters shall be located so that sufficient fresh air and light are obtainable compatible with accepted practice or good arrangement and construction.

(b) Quarters shall not be located forward of the collision bulkhead, nor shall such section or sections of any deck occupied by quarters be below the deepest load line except in special cases which may be approved by the Commandant, U. S. Coast Guard.

§ 168.15-10 Construction.

(a) All quarters are to be efficiently constructed in a manner suitable to the purpose for which they are intended. Bulkheads separating accommodations from cargo and machinery spaces, lamp, paint, storerooms and drying rooms, washrooms and toilet rooms are to be efficiently constructed and made odorproof when considered necessary by the Commandant, U.S. Coast Guard.

(b) Metal decks in living quarters are to be covered with deck covering composition as approved by the Commandant, U. S. Coast Guard so as to be cleaned readily and kept sanitary. Deck coverings in hospital, wash places, drying rooms, and toilet rooms are to be of suitable solid impervious material such as tile, cement, etc.

(c) All quarters are to be properly drained. Living accommodations are not to drain directly into washrooms or toilet rooms, each of which shall be drained separately.

(d) All washrooms and toilet rooms shall be properly drained and so constructed and arranged that they can be kept in a clean, workable, and sanitary condition. The scupper to the wash place must be of sufficient size and situated in the lowest part of the space.

§ 168.15-15 Size.

(a) Sleeping accommodations shall be divided into rooms, no one of which shall berth more than 6 persons. The purpose for which each space is to be used and the number of persons it may accommodate, shall be marked.

(b) Each room shall be of such size that there are at least 20 square feet of deck area and a volume of at least 150 cubic feet for each person accommodated. In measuring sleeping quarters, any equipment contained therein is not to be deducted from the total volume or from the deck area.

§ 168.15-20 Equipment.

(a) Each person shall have a separate berth and not more than 1 berth shall be placed above another. The berths shall be of metal framework and shall be so arranged that they provide ample room for easy occupancy. The over-all size of a berth shall not be less than 30 inches wide by 76 inches long. Where berths adjoin, they shall be divided by a partition not less than 18 inches in height. Where 2 tiers of berths are fitted, the bottom of the lower must not be less than 12 inches above the deck, and the bottom of the upper must not be less than 2 feet 6 inches both from the bottom of the lower and from the deck overhead. The berths shall not be obstructed by pipes, ventilating ducts, or other installations.

(b) A metal locker shall be provided for each person accommodated in a room. Each locker shall be not less than 18 inches by 21 inches by 60 inches high and so placed as to be readily accessible. The interior of the locker shall be so arranged as to facilitate the proper stowage of clothes.

§ 168.15-25 Washrooms.

(a) There shall be provided 1 shower for each 10 persons or fraction thereof and 1 wash basin for each 6 persons or fraction thereof to be accommodated. The persons to be accommodated shall include all persons who do not occupy rooms to which private facilities are attached.

(b) All wash basins and showers shall be equipped with proper plumbing including hot and cold running fresh water. Wash basins may be located in the sleeping quarters if properly installed and equipped with proper plumbing.

§ 168.15-30 Toilet rooms.

(a) There shall be provided 1 toilet for each 10 persons or fraction thereof to be accommodated. The persons to be accommodated shall include all persons who do not occupy rooms to which private facilities are attached.

(b) The toilet rooms shall be separate from the washrooms and shall be located convenient to the sleeping quarters of the persons to which they are allotted but shall not open directly into such quarters except when they are provided as private or semiprivate facilities.

(c) Where more than one toilet is located in a space or compartment, each toilet shall be separated by partitions. Such partitions shall be open at the top and bottom for ventilating and cleaning purposes.

(d) Urinals may be fitted if desired, but no reduction in the required number of toilets will be made therefor.

§ 168.15-35 Hospital space.

(a) Each vessel shall be provided with a hospital space. This space shall be situated with due regard to the comfort of the sick so that they may receive proper attention in all weathers.

(b) The hospital shall be suitably separated from other spaces and shall be used for the care of the sick and for no other purpose.

(c) The entrance is to be of such width and in such a position as to admit a stretcher case readily. Berths are to be of metal and may be in double tier, provided the upper berth is hinged and arranged to be secured clear of the lower berth when not in use. At least one berth is to be so arranged that it can be made accessible from both sides when necessary.

(d) The hospital shall be fitted with berths in the ratio of 1 berth to every 12 persons, but the number of berths need not exceed 6. These berths, in their size and arrangement, shall comply with the provisions of § 168.15-20(a).

(e) The hospital shall have a toilet, wash basin, and bath tub or shower conveniently located. Other necessary suitable equipment of a sanitary type such as clothes locker, table, seat, etc., shall be provided.

§ 168.15-40 Lighting.

All quarters shall be adequately lighted. The minimum standard for natural lighting is that it will be possible on a clear day to read print such as that of an ordinary newspaper in any part of the clear working space. When it is not possible to provide adequate natural lighting, artificial lighting may be accepted on the same basis. Washrooms, toilet rooms, and hospital spaces are in particular to be well lighted.

§ 168.15-45 Heating.

All quarters shall be adequately heated in a manner suitable to the purpose of the space. The method of heating may be by steam, hot water apparatus, a continuous supply of warm air, or other method approved by the Commandant, U.S. Coast Guard.

§ 168.15-50 Ventilation.

(a) All quarters shall be adequately ventilated in a manner suitable to the purpose of the space and route of the vessel. The inlets shall be arranged to diffuse the inflow as widely as possible in order that the air shall be distributed without discomfort to the occupants.

(b) Except for such spaces as are located in deck houses where, under all ordinary weather conditions, the windows, ports, skylights, etc., and doors to passageways can be kept open, all spaces shall be ventilated by a mechanical system unless it can be shown that a natural system will meet the requirements outlined in paragraph (a) of this section.

(c) When washrooms are ventilated by a natural system, they may receive their supply of fresh air from well-ventilated passageways, but independent outlet ventilators must be fitted with an area of at least 10 square inches, exclusive of insect screening if fitted, for each 150 cubic feet of volume of the space ventilated.

(d) When toilet rooms are ventilated by a natural system, the fresh air must be supplied through independent inlet ventilators having a minimum area of 10 square inches, exclusive of insect screening if fitted, for each 150 cubic feet of volume of space ventilated. The outlet ventilators also must be independent to the open air and must be at least equal in size to the inlet ventilators.

(e) When mechanical ventilation is provided for sleeping rooms and messrooms, these spaces shall be supplied with fresh air equal to at least 10 times the volume of the room each hour and shall be so ventilated both at sea and in port when such spaces are occupied. The system shall be so designed that the impure air will exhaust in a satisfactory manner.

(f) When mechanical ventilation is provided for washrooms, toilet rooms, and hospital spaces, these spaces shall be fitted with exhaust ventilation to remove a volume of air equal to 10 times the volume of the space each hour and with adequate ventilation inlets so that it is possible to have these spaces properly ventilated when all doors and ports are closed.

§ 168.15-55 Screening.

Provision shall be made to protect the quarters against the admission of insects by the fitting of suitable screens to ventilating skylights, airports, ventilators, and doors to the open deck.

§ 168.15-60 Inspection.

(a) The Officer in Charge, Marine Inspection, shall inspect the quarters of every such vessel at least once in each month or at such time as the vessel shall enter an American port and shall satisfy himself that such vessel is in compliance with the regulations in this part.

(b) Whenever it shall be found that such vessel is not in compliance with the regulations in this part, the Officer in Charge, Marine Inspection, shall proceed as provided in section 4453 of the Revised Statutes of the United States, as amended (46 U.S.C. 435).

SUBCHAPTER S [RESERVED]

SUBCHAPTER T—SMALL PASSENGER VESSELS (UNDER 100 GROSS TONS)

PART 175—GENERAL PROVISIONS

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175.15-1 Conditions under which equivalents may be used.

Subpart 175.20—Administrative Procedure

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Subpart 175.27—Adoption of Standards and Specifications

175.27-1 General.
175.27-5 American Boat and Yacht Council, Inc. (ABYC).
175.27-20 Yacht Safety Bureau (YSB).

Subpart 175.30—Appeals

175.30-1 Right of appeal.

Subpart 175.35—Special Provisions

175.35-1 Existing offshore supply vessels.

AUTHORITY: R.S. 4405, as amended, 4462, as amended, sec. 3, 70 Stat. 152, sec. 6(b)(1), 80 Stat. 938; 46 U.S.C. 375, 416, 390b, 49 U.S.C. 1655(b); 49 CFR 1.4(a)(2). Additional authority cited with regulations affected.

SOURCE: CGFR 60-54, 25 FR 9315, Sept. 29, 1960, unless otherwise noted.

Subpart 175.01—Authority

§ 175.01-1 General.

(a) The regulations in this subchapter are prescribed by the Commandant of the Coast Guard, pursuant to a delegation of authority by the Secretary of Transportation set forth in 49 CFR 1.46(b), to carry out the intent and purpose of title 46, United States Code, sections 390 to 390g, which require the inspection and certification of certain vessels carrying more than six passengers, and sections 362, 375, 391, 392, 399, 404, 416, 435, and 451, which relate to the inspection and certification of certain vessels carrying one or more passengers for hire.

(b) S and L: Where other laws are applicable to vessels inspected under this subchapter, appropriate references following certain regulations are made to show that such regulations interpret or apply such laws.

[CGFR 69-116, 35 FR 6862, Apr. 30, 1970]

Subpart 175.05—Application

§ 175.05-1 Applicability to United States vessels.

(a) This subchapter shall be applicable to all United States flag vessels indicated in column 4 of Table 175.05-1(a) that are less than 100 gross tons, except as follows:

(1) Any vessel operating exclusively on inland waters which are not navigable waters of the United States.

(2) Any vessel while laid up and dismantled and out of commission.

(3) With the exception of vessels of the United States Maritime Administration, any vessel with title vested in the United States and which is used for public purposes and operated by a department or agency of the Federal Government.

(Sec. 1, 41 Stat. 305, as amended, sec. 1, 70 Stat. 151; 46 U.S.C. 363, 390)

(4) Any lifeboat forming part of a vessel's lifesaving equipment.

(b) S and L: Any vessel carrying more than 150 passengers shall comply with the provisions of this subchapter and shall be subject to certain additional requirements as determined by the Officer in Charge, Marine Inspection. These additional requirements are contained in applicable regulations in Subchapter H (Passenger Vessels), Subchapter P (Manning), Subchapter F (Marine Engineering), and Subchapter J (Electrical Engineering) of this chapter.

(R.S. 4463, as amended; 46 U.S.C. 222)

(c) S and L: Nothing in the regulations in this subchapter shall be construed as exempting any mechanically propelled vessel, other than a yacht, which carries more than 12 passengers on an international voyage from the applicable requirements of the International Convention for Safety of Life at Sea, 1960.

(d) S and L: Any vessel which carries flammable or combustible liquid cargo, or explosives, or other dangerous articles or substances is subject to additional requirements provided in other laws and regulations. Any Officer in Charge, Marine Inspection, may be contacted for information concerning these additional requirements.

(R.S. 4417a, as amended, 4472, as amended; 46 U.S.C. 391a, 170)

(e) S and L: Any mechanically propelled vessel inspected and certificated under the provisions of this subchapter, which is more than 15 gross tons and carries freight for hire, is subject to additional requirements provided in other laws and regulations. Any Officer in Charge, Marine Inspection, may be contacted for information concerning these additional requirements.

TABLE 175.05-1(a)

Method of propulsion	Size or other limitations[1]	Classes of vessels (including motorboats) examined or inspected under various Coast Guard regulations[1]					
		Vessels inspected and certificated under Subchapter D—Tank Vessels[2]	Vessels inspected and certificated under either Subchapter H--Passenger Vessels[2 3 4 5] or Subchapter T—Small Passenger Vessels[2 3 4]	Vessels inspected and certificated under Subchapter I—Cargo and Miscellaneous Vessels[2 5]	Vessels subject to provisions of Subchapter C—Uninspected Vessels[2 3 6 7 8]	Vessels subject to provisions of Subchapter U—Oceanographic Vessels[2 3 6 7 9]	Vessels subject to provisions of Subchapter O—Certain Bulk Dangerous Cargoes[10]
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
Steam	Vessels not over 65 feet in length.	All vessels carrying combustible or flammable liquid cargo in bulk.	All vessels carrying more than 6 passengers.[7]	All tugboats and towboats.	All vessels except those covered by columns 3, 4, 5, and 7.	None	All vessels carrying in bulk the cargoes listed in table of pt. 153 and table 4 of pt. 154.[12]
	Vessels over 65 feet in length.	All vessels carrying combustible or flammable liquid cargo in bulk.[5].	1. All vessels carrying more than 12 passengers on an international voyage, except yachts. 2. All vessels of not over 15 gross tons which carry more than 6 passengers.[7] 3. All other vessels carrying passengers,[7] except: a. Yachts. b. Documented cargo or tank vessels issued a permit to carry not more than 16 persons in addition to the crew.	All vessels except those covered by columns 3 and 4.	None	All vessels engaged in oceanographic research.	Do.

(R.S. 4426, as amended; 46 U.S.C. 404; R.S. 4405 as amended, R.S. 4462 as amended, R.S. 4417A as amended, R.S. 4472 as amended, Sec. 6(B)(1), 80 Stat. 937; 46 U.S.C. 170, 375, 391a, 416; 49 U.S.C. 1655(b)(1); 49 CFR 1.46(b))

[CGFR 63-40, 28 FR 9734, Sept. 6, 1963, as amended by CGFR 70-10, 35 FR 3713, Feb. 25, 1970; CGFR 69-116, 35 FR 6862, Apr. 30, 1970; CGD 73-96, 42 FR 49027, Sept. 26, 1977; CGD 77-042, 42 FR 63643, Dec. 19, 1977]

§ 175.05-2 Applicability to offshore supply vessels.

Offshore supply vessels of above 15 gross tons and less than 100 gross tons are subject to inspection under the provisions of this subchapter.

[CGD 80-133, 45 FR 69244, Oct. 20, 1980]

§ 175.05-3 Applicability to foreign vessels.

(a) Except as specifically noted in paragraph (b) of this section, this subchapter shall be applicable to the extent prescribed by law to all foreign vessels of the following classifications, indicated in column 4 of Table 175.05-1(a) that are less than 100 gross tons:

(1) Mechanically propelled foreign vessels of more than 15 gross tons and over 65 feet in length which carry more than 12 passengers from any port in the United States.

(2) Foreign vessels which carry more than six passengers from any port in the United States and which are:

(i) Mechanically propelled vessels of not more than 15 gross tons regardless of length; or,

(ii) Mechanically propelled vessels of more than 15 gross tons but less than 65 feet in length; or,

(iii) Sailing vessels or nonself-propelled vessels regardless of length.

(b) The provisions of this subchapter shall not be applicable to those foreign vessels covered by paragraph (a) of this section which are:

(1) Vessels of a foreign nation signatory to the International Convention for the Safety of Life at Sea, 1960, and which have on board a current, valid Safety Certificate; or,

(2) Vessels of a foreign nation having inspection laws approximating those of the United States together with reciprocal inspection arrangements with the United States, and which have on board a current, valid Certificate of Inspection issued by its government under such arrangements.

[CGFR 69-116, 35 FR 6862, Apr. 30, 1970]

§ 175.05-5 Specific application noted in text.

(a) S: Under the designator "S" shall be included all vessels indicated in column 4 of Table 175.05-1(a) that are not more than 65 feet in length and of less than 100 gross tons carrying more than six passengers.

(b) L: Under the designator "L" shall be included all vessels indicated in column 4 of Table 175.05-1(a) that are more than 65 feet in length and of less than 100 gross tons which are:

(1) Mechanically propelled vessels of more than 15 gross tons carrying one or more passengers for hire.

(2) Mechanically propelled vessels of not more than 15 gross tons carrying more than six passengers.

(3) Sailing vessels and barges carrying more than six passengers.

(c) Certain portions of this subchapter applicable to only "S" vessels are indicated by the designator "S". Portions applicable to only "L" vessels are indicated by the designator "L". Those portions of this subchapter applicable to both categories of vessels contain no designator or are designated "S and L".

(d) At the beginning of the various parts, subparts and sections, a more specific application is generally given for the particular portion of the text involved. This application sets forth the types, sizes, services or vessels to which the text pertains, and in many cases limits the application of the text to vessels contracted for before or after a specific date.

(e) As used in this subchapter the term "vessels contracted for" includes not only contracting for the construction of a vessel, but also contracting for a material alteration to a vessel, contracting for the conversion of a vessel to a passenger vessel, and changing of service or route of a vessel, if such change increases or modifies the general requirements for the vessel or increases the hazards to which it might be subjected.

(46 U.S.C. 369, 375, 390b, 416, and 481; 49 U.S.C. 1655; 49 CFR 1.46)

[CGFR 69-116, 35 FR 6862, Apr. 30, 1970, as amended by CGD 79-165a, 45 FR 64189, Sept. 29, 1980]

§ 175.05-15 Gross tonnage as a criterion for requirements.

(a) The regulations in this subchapter, as well as referenced requirements in other subchapters in this chapter, take into account the passenger vessel's size, construction, and equipment, as well as its intended service on the routes or waters on which it is desired to be operated or navigated, which are indications of the hazards to which such vessel may be subjected. The Commandant's determinations in this respect for a particular passenger vessel are stipulated in a certificate of inspection, which states certain terms and conditions governing such vessels when in operation.

(b) In applying the laws and regulations to passenger vessels, one criterion for invocation of safety standards is the description of passenger vessels by relative size in gross tons. When it is determined by the Commandant that the gross register tonnage for a particular passenger vessel, which is attained by exemptions, reductions, or other devices in the basic gross tonnage formulation, will circumvent or be incompatible with the application of specific safety requirements in the passenger vessel regulations for a vessel of such physical size, the Commandant shall prescribe the regulations to be made applicable to such vessel.

(c) When the Commandant determines that the gross register tonnage is not a valid criterion for the invocation of safety requirements based on relative size, the parties involved will be informed of the determination and of the regulations applicable to such passenger vessel, and before being permitted to operate such vessel, compliance therewith shall be required. Endorsements or notations on the passenger vessel's certificate of inspection may be made as appropriate.

Subpart 175.07—Load Lines

§ 175.07-1 Load lines required.

Vessels of 79 feet in length and over having their keels laid or at a similar stage of construction on or after July 21, 1968, and engaged in international voyages, are subject to load line assignment, certification, and marking under Subchapter E (Load Lines) of this chapter.

(Sec. 2, 45 Stat. 1493, as amended, sec. 2, 49 Stat. 888; 46 U.S.C. 85a, 88a)

[CGFR 69-72, 34 FR 17503, Oct. 29, 1969]

Subpart 175.10—Definitions of Terms Used in This Subchapter

§ 175.10-1 Approved.

This term means approved by the Commandant unless otherwise stated.

§ 175.10-2 Approved type.

(a) Where equipment in this subchapter is required to be of an "approved type," such equipment must be of a type which has been specifically approved by the Commandant.

(b) Notifications regarding approvals are published in the FEDERAL REGISTER. In addition, approved types of equipment are listed in Coast Guard publication CG-190, "Equipment Lists," which is available at the Marine Inspection Office of any Officer in Charge, Marine Inspection.

§ 175.10-3 Coastwise.

(a) This term shall be used to describe a route which is not more than 20 nautical miles offshore on any of the following waters:

(1) Any ocean;

(2) The Gulf of Mexico;

(3) The Caribbean Sea;

(4) The Gulf of Alaska; and,

(5) Such other similar waters as may be designated by a Coast Guard District Commander.

§ 175.10-5 Commandant.

This term means the Commandant of the Coast Guard.

§ 175.10-7 Coast Guard District Commander.

This term means an officer of the Coast Guard designated as such by the Commandant to command all Coast Guard activities within his district which include the enforcement and administration of Title 52 of the Revised Statutes, acts amendatory thereof or supplemental thereto and rules and regulations thereunder.

§ 175.10-9 Ferry.

Under this designation shall be included those vessels, in other than ocean or coastwise service, having provisions only for deck passengers and/or vehicles, operating on a short run on a frequent schedule between two points over the most direct water route, and offering a public service of a type normally attributed to a bridge or tunnel.

§ 175.10-11 Great Lakes.

This term shall be used to describe a route on the waters of any of the Great Lakes.

§ 175.10-13 Headquarters.

This term means the Office of the Commandant, United States Coast Guard, Washington, D.C. 20591.

[CGFR 60-54, 25 FR 9315, Sept. 29, 1960, as amended by CGFR 68-32, 33 FR 5725, Apr. 12, 1968]

§ 175.10-17 Lakes, bays, and sounds.

(a) This term shall be used to describe a route on any of the following waters:

(1) Any lake other than the Great Lakes;

(2) Any bay;

(3) Any sound; and,

(4) Such other similar waters as may be designated by a Coast Guard District Commander.

§ 175.10-19 Length.

In determining length for the purpose of this chapter it shall be measured from end to end over the deck excluding sheer.

§ 175.10-21 Marine inspector or inspector.

This term means any person from the civilian or military branch of the Coast Guard assigned under the superintendence and direction of an Officer in Charge, Marine Inspection, designated for the performance of duties with respect to the enforcement and administration of Title 52 of the Revised Statutes, acts amendatory thereof or supplemental thereto, rules and regulations thereunder.

§ 175.10-23 Non-self-propelled vessel.

Under this designation shall be included all vessels which do not have installed either propulsive machinery or masts, spars and sails.

§ 175.10-25 Ocean.

(a) This term shall be used to describe a route which is more than 20 nautical miles offshore on any of the following waters:

(1) Any ocean;

(2) The Gulf of Mexico;

(3) The Caribbean Sea;

(4) The Gulf of Alaska; and,

(5) Such other similar waters as may be designated by a Coast Guard District Commander.

§ 175.10-26 Officer in Charge, Marine Inspection.

This term means any person from the civilian or military branch of the Coast Guard designated as such by the Commandant and who, under the superintendence and direction of the Coast Guard District Commander, is in charge of an inspection zone for the performance of duties with respect to the inspections, enforcement, and administration of Title 52, Revised Statutes, and acts amendatory thereof or supplemental thereto, and rules and regulations thereunder.

§ 175.10-27 Passenger.

A passenger is every person other than the master and the members of the crew or other persons employed or engaged in any capacity on board a vessel in the business of that vessel. The following special considerations should be noted:

(a) *S and L.* In the case of a vessel on an international voyage a child under one year of age is not counted as a passenger.

(b) *S.* For vessels subject to the provisions of the Act of May 10, 1956 (46 U.S.C. 390-390g), the term passenger means every person carried on board a vessel other than:

(1) The owner or his representative;

(2) The master and the bona fide members of the crew engaged in the business of the vessel who have contributed no consideration for their carriage and who are paid for their services;

(3) Any employee of the owner of the vessel engaged in the business of the owner, except when the vessel is operating under a bareboat charter;

(4) Any employee of the bareboat charterer of the vessel engaged in the business of the bareboat charterer;

(5) Any guest on board a vessel which is being used exclusively for pleasure purposes who has not contributed any consideration directly or indirectly, for his carriage; or

(6) Any person on board a vessel documented and used for tugboat or towboat service of fifty gross tons or more who has not contributed any consideration, directly or indirectly, for his carriage.

[CGFR 63-40, 28 FR 9736, Sept. 6, 1963]

§ 175.10-28 Passengers for hire, carriage of.

(a) The carriage of any person or persons by a vessel for a valuable consideration, whether directly or indirectly flowing to the owner, charterer, agent, or any other person interested in the vessel.

(R.S. 4426, as amended, sec. 1, 70 Stat. 151; 46 U.S.C. 404, 390)

[CGFR 63-40, 28 FR 9736, Sept. 6, 1963]

§ 175.10-29 Pilothouse control.

This term means that the operator of the vessel may start and stop the engines and control the direction and speed of the propeller from the principal station from which the vessel is steered.

§ 175.10-31 Recognized classification society.

This term means any organization of nationwide scope, such as the American Bureau of Shipping or Lloyd's Register of Shipping, with standards of construction or equipage which have been accepted and/or approved by the Commandant.

§ 175.10-33 Rivers.

(a) This term shall be used to describe a route on any of the following waters:

(1) Any river;

(2) Any canal; and,

(3) Such other similar waters as may be designated by a Coast Guard District Commander.

§ 175.10-35 Rules of the Road.

(a) The term "Rules of the Road" means the statutory and regulatory rules governing navigation of vessels. These rules are also published by the Coast Guard in pamphlet form as follows:

(1) Rules of the Road—International—Inland (CG-169).

(2) Rules of the Road—Great Lakes (CG-172).

(3) Rules of the Road—Western Rivers (CG-184).

(b) The current editions of the "Rules of the Road" pamphlets may be obtained from the Marine Inspection Office of any Officer in Charge, Marine Inspection.

§ 175.10-36 Sailing vessel.

This term means a vessel with no mechanical means of propulsion, all propulsive power being provided by sails.

§ 175.10-37 Vessel.

Where the word "vessel" is used in this subchapter, it shall be considered to include all vessels subject to the requirements of this subchapter as described in Subpart 175.05 of this part.

§ 175.10-38 Auxiliary sailing vessel.

This term means a vessel capable of being propelled by mechanical means and/or by sails.

[CGFR 68-32, 33 FR 5725, Apr. 12, 1968]

§ 175.10-40 Offshore supply vessel.

(a) An offshore supply vessel is a vessel that is propelled by machinery other than steam, that is of above 15 gross tons and less than 500 gross tons, and that regularly carriers goods, supplies, or equipment in support of exploration, exploitation, or production of offshore mineral or energy resources.

(b) An existing offshore supply vessel is one that was operating as such on or before January 1, 1979, or that, if not in service of any kind on or before that date, was contracted for on or before that date and entered service as such before the effective date of this section.

(c) A new offshore supply vessel is one that is not an existing offshore supply vessel.

[CGD 80-133, 45 CFR 69244, Oct. 20, 1980]

Subpart 175.15—Equivalents

§ 175.15-1 Conditions under which equivalents may be used.

(a) Where in this subchapter it is provided that a particular fitting, appliance, apparatus, or equipment, or type thereof, shall be fitted or carried in a vessel, or that any particular arrangement shall be adopted, the Commandant may accept in substitution therefor any other fitting, apparatus, or equipment, or type thereof, or any other arrangement: *Provided,* That he shall have been satisfied by suitable trials that the fitting, appliance, apparatus, or equipment, or type thereof, or the arrangement shall be at least as effective as that specified in this subchapter.

(b) In any case where it is shown to the satisfaction of the Commandant that the use of any particular equipment, apparatus, or arrangement not specifically required by law is unreasonable or impracticable, the Commandant may permit the use of alternate equipment, apparatus, or arrangement to such an extent and upon such conditions as will insure, to his satisfaction, a degree of safety consistent with the minimum standards set forth in this subchapter.

Subpart 175.20—Administrative Procedure

§ 175.20-1 Assignment of marine inspector.

(a) Upon receipt of a written application for inspection, the Officer in Charge, Marine Inspection, will assign a marine inspector to inspect the vessel. This inspection will be made at a mutually agreed to time and place.

(b) The owner or someone representing the owner shall be present during the inspection.

§ 175.20-5 Notice of deficiencies and requirements.

(a) If during the inspection of a vessel, the vessel or its equipment is found not to conform to the requirements of law or the regulations in this subchapter, the marine inspector will point out all deficiencies and will discuss all requirements with the owner or his representative. Normally, the marine inspector will list all such requirements which have not been completed and present the list to the owner or his representative.

(b) In any case where the owner of a vessel or his representative desires further clarification of, or reconsideration of any requirement placed against his vessel, he may discuss the matter with the Officer in Charge, Marine Inspection.

Subpart 175.25—Special Consideration

§ 175.25-1 By Officer in Charge, Marine Inspection.

(a) In applying the provisions of Parts 177, 178, 180, 181, 182, 183, and 184 of this subchapter, the Officer in Charge, Marine Inspection, may give special consideration to departures from the specific requirements when special circumstances or arrangements warrant such departures.

(R.S. 4488, as amended, 4491, as amended; 46 U.S.C. 481, 489)

[CGFR 60-54, 25 FR 9315, Sept. 29, 1960, as amended by CGFR 68-32, 33 FR 5725, Apr. 12, 1968]

Subpart 175.27—Adoption of Standards and Specifications

Source: CGFR 68-82, 33 FR 18909, Dec. 18, 1968, unless otherwise noted.

§ 175.27-1 General.

(a) In this subchapter portions or the entire text of certain industrial standards and specifications are referred to as the governing requirements for materials, equipment, tests, or procedures to be followed. These standards and specification requirements specifically referred to in this subchapter shall be the governing requirements for the subject matters covered unless specifically limited, modified, or replaced by other regulations in this subchapter.

(b) As used in this subchapter references to industry standards, such as those established by the American Bureau of Shipping, Lloyd's Register of Shipping or other recognized classification society, and others, mean that the Coast Guard uses such standards as a guide with respect to the subjects covered, and under normal conditions will accept machinery, etc., meeting the requirements of such standards. Such standards are not adopted as the governing requirements and made a part of the regulations in this subchapter by reference.

(c) In this subpart are listed the organizations publishing standards and specifications which are adopted by reference. The standards and specifications may be obtained direct from the organization issuing the standard or specification.

(Sec. 552, 80 Stat. 383, as amended; 5 U.S.C. 552)

§ 175.27-5 American Boat and Yacht Council, Inc. (ABYC).

(a) The materials as referenced in this subchapter from standards published by the American Boat and Yacht Council, Inc., in effect on the date equipment is manufactured, are adopted and shall form a part of the regulations in this subchapter. Copies of the referenced materials may be obtained from the American Boat and Yacht Council, Inc., 420 Lexington Avenue, New York, N.Y. 10017.

§ 175.27-20 Yacht Safety Bureau (YSB).

(a) The materials as referenced in this subchapter from standards published by the Yacht Safety Bureau, in effect on the date equipment is manufactured, are adopted and shall form a part of the regulations in this subchapter. Copies of the referenced materials may be obtained from the Yacht Safety Bureau, 336 Old Hook Road, Westwood, N.J. 07676.

Subpart 175.30—Appeals

§ 175.30-1 Right of appeal.

(a) Whenever any person directly interested in or affected by any decision or action of any Officer in Charge, Marine Inspection, shall feel aggrieved by such decision or action, he may appeal therefrom to the Coast Guard District Commander having jurisdiction and a like appeal shall be allowed from any decision or action of the Coast Guard District Commander to the Commandant, whose decision shall be final: *Provided, however,* That application for such reexamination of the case by a Coast Guard District Commander or by the Commandant shall be made within 30 days after the decision or action appealed from shall have been rendered or taken.

Subpart 175.35—Special Provisions

§ 175.35-1 Existing offshore supply vessels.

(a) Existing offshore supply vessels of above 15 and less than 100 gross tons that do not possess a valid certificate of inspection must be registered with an officer in charge, marine inspection on or before January 6, 1981. The initial inspection for certification for each registered offshore supply vessel shall be made within two years of the date the vessel is registered.

(b) The registration must be on board the vessel and available for inspection.

(Pub. L. 96.378, 94 Stat. 1513 (46 U.S.C. 404-1); 49 CFR 1.46(b))

[CGD 80-133, 45 FR 69244, Oct. 20, 1980]

PART 176—INSPECTION AND CERTIFICATION

Subpart 176.01—Certificate of Inspection

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176.01-5 Description.
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176.01-15 Period of validity.
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Subpart 176.30—Limitations of Inspections

Sec.
176.30-1 Marine inspector not limited.

Subpart 176.35—International Convention for Safety of Life at Sea, 1960

176.35-1 Vessels subject to requirements.
176.35-5 International voyage.
176.35-10 Voyage between continental United States and Hawaii or Alaska or between Hawaii and Alaska.
176.35-15 Passenger Ship Safety Certificate.
176.35-20 Exemption Certificate.
176.35-25 Posting of Convention certificates.
176.35-30 Duration of certificates.

AUTHORITY: R.S. 4405, as amended, 4462, as amended, sec. 3, 70 Stat. 152, sec. 6(b)(1), 80 Stat. 938; 46 U.S.C. 375, 416, 390b, 49 U.S.C. 1655(b); 49 CFR 1.4(a), unless otherwise noted. Interpret or apply R.S. 4417, as amended, 4418, as amended, 4421, as amended, 4426, as amended, 4453, as amended, 4464, as amended; 46 U.S.C. 391, 392, 399, 404, 435, 451.

SOURCE: CGFR 60-54, 25 FR 9319, Sept. 29, 1960, unless otherwise noted.

Subpart 176.01—Certificate of Inspection

§ 176.01-1 When required—S.

(a) Except as noted in this subpart, every vessel subject to inspection and certification shall, when carrying more than six passengers, have on board a valid certificate of inspection, Form CG-3753, and shall be operated in compliance therewith.

(Sec. 4, 70 Stat. 153; 46 U.S.C. 390c)

(b) Every mechanically propelled vessel of above 15 gross tons inspected and certificated under the provisions of this subchapter shall, during the tenure of the certificate, be in full compliance with the terms of the certificate when carrying freight for hire. Any other vessel certificated under the provisions of this subchapter when carrying not more than 6 passengers, and when operating as a yacht, commercial fishing vessel, cargo carrier, etc., will be subject only to the laws, rules and regulations governing the type of operation in which it engages.

(R.S. 4463, as amended, sec. 26, 41 Stat. 998, as amended, sec. 17, 54 Stat. 166, as amended; 46 U.S.C. 222, 882, 526p)

(c) If necessary to prevent delay of the vessel, a temporary certificate of inspection, Form CG-854, shall be issued pending the issuance and delivery of the regular certificate of inspection. Such temporary certificate shall be carried in the same manner as the regular certificate and shall in all ways be considered the same as the regular certificate of inspection which it represents.

[CGFR 63-40, 28 FR 9736, Sept. 6, 1963]

§ 176.01-3 When required—L.

(a) Except as noted in this subpart or § 176.01-27, no vessel subject to inspection and certification may be operated without a valid certificate of inspection, Form CG-3753.

(b) If necessary to prevent delay of the vessel, a temporary certificate of inspection, Form CG-854, shall be issued pending the issuance and delivery of the regular certificate of inspection. Such temporary certificate shall be carried in the same manner as the regular certificate and shall in all ways be considered the same as the regular certificate of inspection which it represents.

(c) Nothing in this subpart shall prevent a vessel upon a regularly established line from a port in the United States to a port of a foreign country not contiguous to the United States whose certificate of inspection expires at sea or while said vessel is in a foreign port or a port of Hawaii from lawfully completing her voyage without the valid certificate of inspection or temporary certificate required by this section: *Provided,* That the voyage shall be completed within 30 days after the expiration of the certificate of inspection. No such vessel shall depart if its certificate of inspection will expire within 15 days of the date of sailing unless the voyage will be completed before such expiration.

[CGFR 63-40, 28 FR 9736, Sept. 6, 1963, as amended by CG 72-53R, 37 FR 12492, June 24, 1972]

§ 176.01-5 Description.

(a) The certificate of inspection issued to a vessel will describe the vessel, the route which she may travel, the minimum manning requirements, the major lifesaving equipment carried, the minimum fire extinguishing equipment and life preservers required to be carried, the maximum number of passengers and the maximum number of persons which may be carried, the name of the owner and operator, and such conditions of operations as may be determined by the Officer in Charge, Marine Inspection.

(R.S. 4463, as amended, 4488, as amended, sec. 26, 41 Stat. 998, as amended; 46 U.S.C. 222, 481, 882. Treasury Department Orders 120, July 31, 1950, 15 FR 6521; 167-38, October 26, 1959, 24 FR 8857)

[CGFR 69-116, 35 FR 6863, Apr. 30, 1970]

§ 176.01-10 How to obtain or renew.

(a) *S and L.* The certificate of inspection shall be obtained or renewed by making application for inspection on Form CG-3752, Application for Inspection of U.S. Vessel, to the Coast Guard Marine Inspection Office located in, or nearest the port at which the inspection is to be made. The application forms are available at any local Coast Guard Marine Inspection Office.

(b) *S and L.* The application for initial inspection of a vessel being newly constructed or converted shall be submitted prior to the start of such construction or conversion. Information and requirements or plans are in Subpart 177.05 of this subchapter.

(c) *S and L.* The construction, arrangement and equipment of all vessels shall be acceptable to the cognizant Officer in Charge, Marine Inspection, as a prerequisite of the issuance of the initial certificate of inspection. Such acceptance will be based on the information, specifications, drawings and calculations available to the Officer in Charge, Marine Inspection, and on the successful completion of an initial inspection for certification.

(d) *S.* Certificates of inspection will be renewed by the issuance of new certificates of inspection. Such renewal will normally be made triennially upon expiration of the old certificate

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			c. Towing and fishing vessels, in other than ocean and coastwise service, may carry persons on the legitimate business of the vessel, in addition to crew, but not to exceed one for each net ton of the vessel.				
Motor	Vessels not over 15 gross tons.	All vessels carrying combustible or flammable liquid cargo in bulk.	All vessels carrying more than 6 passengers.[7]	Those vessels carrying dangerous cargoes when required by 46 CFR Part 98 or 146.	All vessels except those covered by columns 3, 4, 5, and 7.	None	All vessels carrying in bulk the cargoes listed in table I of pt. 153 and table 4 of pt. 154.[12]
	Vessels over 15 gross tons except seagoing motor vessels of 300 gross tons and over.	All vessels carrying combustible or flammable liquid cargo in bulk.[5]	1. All vessels carrying more than 12 passengers on an international voyage, except yachts. 2. All vessels not over 65 feet in length which carry more than 6 passengers.[7] 3. All other vessels of over 65 feet in length carrying passengers for hire except documented cargo or tank vessels issued a permit to carry not more than 16 persons in addition to the crew.	All vessels carrying freight for hire except those covered by columns 3 and 4.	All vessels except those covered by columns 3, 4, 5, and 7.	None	Do.

See footnotes at end of table.

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TABLE 175.05-1(a)—Continued

Method of propulsion	Size or other limitations[1]	Classes of vessels (including motorboats) examined or inspected under various Coast Guard regulations[1]					
		Vessels inspected and certificated under Subchapter D—Tank Vessels[2]	Vessels inspected and certificated under either Subchapter H—Passenger Vessels[2,3,4,5] or Subchapter T—Small Passenger Vessels[2,3,4]	Vessels inspected and certificated under Subchapter I—Cargo and Miscellaneous Vessels[2,5]	Vessels subject to provisions of Subchapter C—Uninspected Vessels[2,3,6,7,8]	Vessels subject to provisions of Subchapter U—Oceanographic Vessels[2,3,6,7,9]	Vessels subject to provisions of Subchapter O—Certain Bulk Dangerous Cargoes[10]
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
Motor—Continued	Seagoing motor vessels of 300 gross tons and over.	All vessels carrying combustible or flammable liquid cargo in bulk.[5]	1. All vessels carrying more than 12 passengers on an international voyage, except yachts. 2. All other vessels carrying passengers,[7] except:. a. Yachts. b. Documented cargo or tank vessels issued a permit to carry not more than 16 persons in addition to the crew.	All vessels except those covered by columns 3 and 4, and those engaged in the fishing, oystering, clamming, crabbing, or any other branch of the fishery, kelp, or sponge industry.	All vessels except those covered by columns 3, 4, 5, and 7.	All vessels engaged in oceanographic research.	All vessels carrying in bulk the cargoes listed in table I of pt. 153 and table 4 of pt. 154.[12]
Sail	Vessels not over 700 gross tons.	All vessels carrying combustible or flammable liquid cargo in bulk.	All vessels carrying more than 6 passengers.[7]	Those vessels carrying dangerous cargoes when required by 46 CFR Part 98 or 146.	None	None	Do.
	Vessels over 700 gross tons.	All vessels carrying combustible or flammable liquid cargo in bulk.	All vessels carrying passengers for hire.	Those vessels carrying dangerous cargoes when required by 46 CFR Part 98 or 146.	None	None	Do.
Non-self-propelled	Vessels less than 100 gross tons.	All vessels carrying combustible or liquid cargo in bulk.	All vessels carrying more than 6 passengers.[7]	Those vessels carrying dangerous cargoes when required by 46 CFR Part 98 or 146.	All barges carrying passengers except those covered by column 4.	None	All tank barges carrying in bulk the cargoes listed in table 151.05 of this chapter.[11,12]

Vessels 100 gross tons or over.	All vessels carrying combustible or flammable liquid cargo in bulk.	All vessels carrying passengers for hire.	All seagoing barges except those covered by columns 3 and 4; and those inland barges carrying dangerous cargoes when required by 46 CFR Part 98 or 146.	All barges carrying passengers except those covered by columns 4 and 7.	All seagoing barges engaged in oceanographic research.	Do.

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[1] Where length is used in this table it means the length measured from end to end over the deck, excluding sheer. This expression means a straight line measurement of the overall length from the foremost part of the vessel to the aftermost part of the vessel, measured parallel to the centerline.

[2] Subchapters E (Load Lines), F (Marine Engineering), J (Electrical Engineering), and N (Dangerous Cargoes) of this chapter may also be applicable under certain conditions. The provisions of 46 U.S.C. 170 and Subchapter N (Dangerous Cargoes) of this chapter apply whenever explosives or dangerous articles or substances are on board vessels (including motorboats), except when specifically exempted by law.

[3] Public nautical schoolships, other than vessels of the Navy and Coast Guard, shall meet the requirements of Part 167 of Subchapter R (Nautical Schools) of this chapter. Civilian nautical schoolships, as defined by 46 U.S.C. 1331, shall meet the requirements of Subchapter H (Passenger Vessels) and Part 168 of Subchapter R (Nautical Schools) of this chapter.

[4] Subchapter H (Passenger Vessels) of this chapter covers only those vessels of 100 gross tons or more. Subchapter T (Small Passenger Vessels) of this chapter covers only those vessels of less than 100 gross tons.

[5] Vessels covered by Subchapter H (Passenger Vessels) or a (Cargo and Miscellaneous Vessels) of this chapter, where the principal purpose or use of the vessels is not for the carriage of liquid cargo, may be granted a permit to carry a limited amount of flammable or combustible liquid cargo in bulk. The portion of the vessel used for the carriage of the flammable or combustible liquid cargo shall meet the requirements of Subchapter D (Tank Vessels) in addition to the requirements of Subchapter H (Passenger Vessels) or I (Cargo and Miscellaneous Vessels) of this chapter.

[6] Any vessel on an international voyage is subject to the requirements of the International Convention for Safety of Life at Sea, 1960.

[7] The meaning of the term "passenger" is as defined in the Act of May 10, 1956 (Sec. 1, 70 Stat. 151; 46 U.S.C. 390). On oceanographic vessels scientific personnel on board shall not be deemed to be passengers nor seamen, but for calculations of lifesaving equipment, etc., shall be counted as persons.

[8] Boilers and machinery are subject to examination on vessels over 40 feet in length.

[9] Under 46 U.S.C. 441 an "oceanographic research vessel" is a vessel "* * * being employed exclusively in instruction in oceanography or limnology, or both, or exclusively in oceanographic research, * * *." Under 46 U.S.C. 443, "an oceanographic research vessel shall not be deemed to be engaged in trade or commerce." If or when an oceanographic vessel engages in trade or commerce, such vessel cannot operate under its certificate of inspection as an oceanographic vessel, but shall be inspected and certificated for the service in which engaged, and the scientific personnel aboard then become persons employed in the business of the vessel.

[10] Bulk dangerous cargoes are cargoes specified in table 151.01-10(b), in table I of Part 153, and in table 4 of Part 154 of this chapter.

[11] For manned tank barges see § 151.01-10(e) of this chapter.

[12] Except those cases excluded under 46 U.S.C. 170 or 391a.

of inspection but may be made at any time within the three years upon proper application.

(e) *L.* Certificates of inspection will be renewed by the issuance of new certificates of inspection. Such renewal will normally be made annually upon expiration of the old certificate of inspection but may be made at any time within the year upon proper application.

(f) *S and L.* The condition of the vessel and its equipment shall be acceptable to the cognizant Officer in Charge, Marine Inspection, as a prerequisite of the certificate of inspection renewal. Such acceptance will be based on the condition as found at the periodic inspection for certification.

[CGFR 63-40, 28 FR 9737, Sept. 6, 1963, as amended by CGFR 64-19, 29 FR 7362, June 5, 1964]

§ 176.01-15 Period of validity.

(a) *S.* A certificate of inspection will be issued for a period of three years, and will remain valid for such period unless renewed, revoked, suspended, or surrendered.

(b) *L.* A certificate of inspection will be issued for a period of one year and will remain valid for such period unless renewed, revoked, suspended, or surrendered.

(c) *S and L.* A certificate of inspection may be revoked, or suspended and withdrawn by the Officer in Charge, Marine Inspection, at any time for noncompliance with the provisions of this subchapter or requirements established thereunder.

[CGFR 63-40, 28 FR 9737, Sept. 6, 1963]

§ 176.01-20 Routes permitted.

(a) The area of operation permitted each vessel shall be as designated by the Officer in Charge, Marine Inspection. Such area of operation shall be described on the certificate of inspection under the major headings "ocean," "coastwise," "Great Lakes," "lakes, bays, and sounds," or "rivers," as applicable. Further limitations imposed or extensions granted shall be described by reference to bodies of waters, geographical points, distance from geographical points, distances from land, depths of channel, seasonal limitations, etc.

(b) Operation of vessels on routes of lesser severity than those specifically described or designated on the certificate of inspection will be permitted. The general order of severity is considered to be ocean; coastwise; Great Lakes; lakes, bays, and sounds; and rivers. Differences in local conditions of operation, as referred to in paragraph (a) of this section, may need to be taken into account.

(c) Non-self-propelled vessels shall, in general, be limited to routes other than "ocean" or "coastwise."

§ 176.01-25 Passengers permitted.

(a) The maximum number of passengers permitted to be carried on a vessel shall be as determined by the Officer in Charge, Marine Inspection, having jurisdiction and shall be stated on the vessel's certificate of inspection.

(R.S. 4463, as amended, 4488, as amended, sec. 26, 41 Stat. 998, as amended; 46 U.S.C. 222, 481, 882)

(b) The maximum number of passengers permitted on any vessel of reasonable design and proportions may be determined by length of rail criteria, deck area criteria, or fixed seating criteria, whichever permits the greatest number. Where seats are provided in one passenger space and are not provided in other passenger spaces, the number of passengers permitted may be the sum of the number permitted by the seating criteria for the space having seats and the number permitted by the area criteria for the space having no seats. For vessels operating on short runs on protected waters such as ferry vessels, the Officer in Charge, Marine Inspection may give special consideration to increases in passenger allowances.

(1) *Length of rail criteria.* One passenger may be permitted for each 30 inches of rail space available to the passengers at the vessel's sides and across the transom.

(2) *Deck area criteria.* One passenger may be permitted for each 10 square feet of deck area available for the passengers' use In computing such deck

area, the areas occupied by the following shall be excluded:

(i) Concession stands.

(ii) Toilets and washrooms.

(iii) Companionways, stairways, etc.

(iv) Spaces occupied by and necessary for handling lifesaving equipment.

(v) Spaces below deck which are unsuitable for passengers and which would not normally be used by passengers.

(vi) Interior passageways less than 30 inches wide and passageways on the open deck less than 18 inches wide.

(3) *Fixed seating criteria.* One passenger may be permitted for each 18 inches of width of fixed seating provided. Regulations covering the installation of fixed seating are contained in § 177.30-1 (c) of this subchapter.

(c) Notwithstanding the number of passengers permitted by any of the criteria described in paragraph (b) of this section, the maximum number may be further limited by stability or subdivision considerations.

[CGFR 60-54, 25 FR 9319, Sept. 29, 1960, as amended by CGFR 68-32, 33 FR 5725, Apr. 12, 1968]

§ 176.01-27 Permit to proceed to another port for repair—L.

(a) The Officer in Charge, Marine Inspection, may issue a permit to proceed to another port for repair, Form CG-948, to a vessel if in his judgment it can be done with safety even if the certificate of inspection of the vessel has expired or is about to expire.

(b) Such permit will only be issued upon the written application of the master, owner, or agent of the vessel.

(c) The permit will state upon its face the conditions under which it is issued and whether or not the vessel is permitted to carry freight or passengers. Passengers may not be carried if the certificate of inspection has expired, except as provided under § 176.01-3(c).

(d) The permit shall be carried in a manner similar to that described in § 176.01-40 for a certificate of inspection.

[CGFR 63-40, 28 FR 9737, Sept. 6, 1963]

§ 176.01-30 Permit to carry excursion party.

(a) A vessel may be permitted to engage in a temporary excursion operation with a greater number of passengers and/or on a more extended route than permitted by its certificate of inspection when in the opinion of the Officer in Charge, Marine Inspection, the operation can be undertaken with safety. A "Permit To Carry Excursion Party," Form CG-949, shall be a prerequisite of such an operation.

(b) Any Officer in Charge, Marine Inspection, having jurisdiction may issue a permit to carry excursion party upon the written application of the operator, owner or agent of the vessel.

(c) An inspection either general or partial, depending upon the circumstances, may be made prior to the issuance of a permit to carry excursion party.

(d) The permit will state upon its face the conditions under which it is issued, the number of passengers the vessel may carry, the crew required, any additional lifesaving or safety equipment which will be required, the route for which the permit is granted, and the dates on which the permit will be valid.

(e) The permit when used shall be carried with the certificate of inspection. Any vessel to which a permit to carry excursion party has been issued shall, during the tenure of the permit, be in full compliance with the terms of its certificate of inspection as supplemented by such permit.

(R.S. 4466, as amended, 4488, as amended 46 U.S.C. 453, 481)

[CGFR 60-54, 25 FR 9319, Sept. 29, 1960, as amended by CGFR 68-32, 33 FR 5725, Apr. 12, 1968]

§ 176.01-35 Certificate of inspection amendment.

(a) A certificate amending a valid certificate of inspection may be issued at any time by any Officer in Charge, Marine Inspection, having jurisdiction over the vessel. The "Certificate of Inspection Amendment," Form CG-858, may be issued to authorize and record a change in the character of a vessel or in her route, equipment, etc., as specified in her certificate of inspection previously issued and currently valid.

(b) Notification and a request for a certificate of inspection amendment shall be made to the Officer in Charge, Marine Inspection, having jurisdiction, by the operator, owner, or agent of the vessel at any time there is a change in the character of a vessel or in her route, equipment, ownership, etc., as specified in her certificate of inspection previously issued and currently valid.

(c) An inspection, either general or partial depending on the circumstances, may be made prior to the issuance of a certificate of inspection amendment.

(d) A certificate of inspection amendment, when issued, shall become a part of the certificate which it amends, and shall be carried with the certificate of inspection.

[CGFR 60-54, 25 FR 9319, Sept. 29, 1960, as amended by CGFR 64-19, 29 FR 7362, June 5, 1964]

§ 176.01-40 Posting.

(a) The certification of inspection shall, in general, be framed under glass or other transparent material and posted in a conspicuous place. When the framing of the certificate would be impracticable, the certificate of inspection shall be kept on board to be shown on demand.

(R.S. 4423, as amended; 46 U.S.C. 400)

§ 176.01-45 Certification expriration date stickers.

(a) The owner, master, or person in charge of a vessel that is issued a Certificate of Inspection under the provisions of this subchapter must not operate the vessel without a Certification Expiration Date Sticker affixed to the vessel on a place that is:

(1) On a glass or smooth metal surface from which the sticker may be removed without damage to the vessel; (2) readily visible to each boarding passenger and to patrolling Coast Guard law enforcement personnel; and (3) acceptable to the Coast Guard marine inspector.

(b) The Coast Guard maring inspector may require the placement of more than one sticker in order to insure compliance with paragraph (a)(2) of this section.

(c) A Certification Expiration Date Sticker indicates the date upon which the vessel's Certificate of Inspection expires and is provided by the Officer in Charge, Marine Inspection, in the number required, upon issuance or renewal of the Certificate of Inspection.

(Sec. 3, 70 Stat. 152 (46 U.S.C. 390b), sec. 6(b), 80 Stat. 937 (49 U.S.C. 1655(b)(1)), 49 CFR 1.46)

[CGD 76-162, 42 FR 30771, July 17, 1978]

Subpart 176.05—Inspection for Certification

§ 176.05-1 General.

(a) An inspection for certification is a prerequisite of the issuance of a certificate of inspection. Such inspection will be made only upon the written application of the operator, owner or agent on Form CG-3752 to the Officer in Charge, Marine Inspection, having jurisdiction.

§ 176.05-5 Initial inspection for certification.

(a) The initial inspection shall include an inspection of the structure, machinery, and equipment, including the outside of the vessel's bottom and unfired pressure vessels.

(b) In the case of a vessel being newly constructed or converted, the initial inspection may consist of a series of inspections during the construction or conversion.

(c) The inspection shall be such as to insure that the arrangement, materials and scantlings of the structure, piping, main and auxiliary machinery, electrical installations, lifesaving appliances, fire extinguishing equipment, pollution prevention equipment, and all other equipment comply with the regulations in this subchapter to the extent they are applicable to the vessel being inspected, and are in accordance with such approved plans as may be required by Subpart 177.05 of this subchapter. The inspection shall also be such as to insure that the materials, workmanship and condition of all parts of the vessel and its machinery and equipment are in all respects satisfactory for the service intended, and that the vessel is in possession of a valid certificate issued by the Federal Communications Commission, if required.

(Sec. 311(j)(1)(C) of the Federal Water Pollution Control Act, 86 Stat. 816, 868; National Environmental Policy Act of 1969, 83 Stat. 852; 33 U.S.C. 1161(j)(1)(C), 42 U.S.C. 4321 et seq.; E.O. 11548; 3 CFR, 1966-1970 Comp., p. 949; 49 CFR 1.46(m))

[CGFR 68-32, 33 FR 5726, Apr. 12, 1968, as amended by CGD 71-161R, 37 FR 28263, Dec. 21, 1972]

§ 176.05-10 Subsequent inspections for certification.

(a) An inspection for renewal of a certificate of inspection shall include an inspection of the structure, machinery and equipment. The inspection shall be such as to insure that the vessel, as regards the structure, piping, main and auxiliary machinery, electrical installations, lifesaving appliances, fire extinguishing equipment, pollution prevention equipment and other equipment, is in satisfactory condition and fit for the service for which it is intended and that it complies with the regulations in this subchapter to the extent that such regulations are applicable to the vessel being inspected.

(b) At each inspection for certification, the inspector shall examine the vessel to determine that it meets the vessel design and equipment requirements for pollution prevention in 33 CFR Part 155, Subpart B.

(Sec. 311(j)(1) (C) and (D) of the Federal Water Pollution Control Act, 86 Stat. 816, 868; National Environmental Policy Act of 1969, 83 Stat. 852; 33 U.S.C. 1161(j)(1) (C) and (D), 42 U.S.C. 4321, et seq.; E.O. 11548; 3 CFR, 1966-1970 Comp., p. 949; 49 CFR 1.46 (m))

[CGFR 60-54, 25 FR 9319, Sept. 29, 1960, as amended by CGD 71-161R, 37 FR 28263, Dec. 21, 1972]

Subpart 176.10—Reinspection

§ 176.10-1 When made.

(a) *S.* At least two reinspections shall be made on each vessel within each triennial inspection period. When possible these reinspections will be made at approximately equal intervals between triennial inspections for certification, but may be made at such other times as may be required by the Officer in Charge, Marine Inspection.

(b) *L.* Vessels in this category are not required to be reinspected between annual inspections, except where specifically deemed necessary by the Officer in Charge, Marine Inspection.

[CGFR 63-40, 28 FR 9737, Sept. 6, 1963]

§ 176.10-5 Scope.

(a) In general, the scope of the reinspection shall be the same as for the triennial inspection for certification, but will be in less detail unless it is determined that a major change has occurred since the last inspection for certification.

(b) The marine inspector shall examine all accessible parts of the vessel's hull, machinery, and equipment to be assured that they are in a satisfactory condition.

Subpart 176.15—Drydocking or Hauling Out

§ 176.15-1 When required.

(a) Except for extensions as authorized by the Commandant, all vessels shall be drydocked or hauled out and made available for examination, and shall be examined by a marine inspector within the periods set forth in this paragraph, depending upon the service.

(1) Each vessel shall be drydocked or hauled out at intervals not to exceed 18 months if it operated in salt water a total of more than 9 months in the 18-month period since it was last drydocked or hauled out.

(2) Each vessel shall be drydocked or hauled out at intervals not to exceed 36 months if it operated in salt water a total of 6 months or less in each 12-month period since it was last drydocked or hauled out. When a vessel exceeds this total amount of service in salt water in any 12-month period since it was last drydocked or hauled out, it shall be drydocked or hauled out within 6 months after the end of that period or within the 36-month interval, whichever is earlier.

(3) Each vessel shall be drydocked or hauled out at intervals not to exceed

60 months if it operates exclusively in fresh water.

(b) Whenever a vessel is drydocked or hauled out in excess of the requirements of this section, an examination may be made by a marine inspector.

[CGFR 60-54, 25 FR 9319, Sept. 29, 1960, as amended by CGFR 62-17, 27 FR 9048, Sept. 11, 1962]

§ 176.15-5 Scope of drydock examination.

(a) A periodic examination made in accordance with the requirements of this subpart shall include the underwater hull and appendages, propellers, shafting, stern bearings, rudders, throughhull fittings, sea valves and strainers, and shall be of sufficient scope to determine that these items are in a satisfactory condition for the service intended.

(1) Any part or all of the propeller shafting may be required to be drawn for examination of the shafting and stern bearing.

(2) Sea chests, sea valves, and sea strainers may be required to be opened for internal examination.

(b) Drydock examinations in excess of the periodic examinations required by this subpart may be of the same scope as a periodic examination or may be a partial examination depending on the circumstances.

§ 176.15-10 Notice.

(a) Whenever any vessel is to be drydocked or hauled out in compliance with § 176.15-1, or to carry out major repairs or alterations affecting the safety or seaworthiness of the vessel, it shall be the duty of the person in charge of the vessel, the owner, or the agent to report the same, together with the nature of any repairs or alterations contemplated, as far in advance as practicable to the Officer in Charge, Marine Inspection, in order that an examination may be made by a marine inspector. Such notification may be made verbally at the Marine Inspection Office of the Officer in Charge, Marine Inspection, having jurisdiction, or it may be made by telephone, telegraph, letter or similar means of communication.

(b) Whenever a vessel is drydocked or hauled out, in excess of the requirements of this subpart, for the purpose of minor repairs, such as changing a propeller, painting or cleaning the hull, no report need be made to the Officer in Charge, Marine Inspection.

Subpart 176.20—Repairs and Alterations

§ 176.20-1 Permission required.

(a) No major repairs or alterations affecting the safety of the vessel with regard to the hull, machinery, or equipment, shall be made without the knowledge and approval of the Officer in Charge, Marine Inspection.

(b) Proposed alterations shall be approved by the Officer in Charge, Marine Inspection, before work is started. Drawings, sketches or written specifications describing the alterations in detail may be required by the Officer in Charge, Marine Inspection.

(c) Drawings will not be required for repairs or replacements in kind.

§ 176.20-5 Inspection required.

(a) An inspection, either general or partial, depending upon the circumstances, may be made whenever any major repairs or alterations are undertaken.

Subpart 176.25—Material Inspections

§ 176.25-1 Inspection standards.

(a) Vessels shall be inspected for compliance with the standards required by this subchapter. For items not covered by standards in this subchapter, inspection shall be in accordance with standards acceptable to the Officer in Charge, Marine Inspection, as good marine practice.

(b) In the application of inspection standards due consideration will be given to the hazards involved in the operation permitted by a vessel's certificate of inspection. Thus the standards may vary in accordance with the vessel's area of operation or any other operational restrictions or limitations.

(c) The published standards of recognized classification societies (such as the American Bureau of Shipping and Lloyd's Register of Shipping) and other recognized safety associations (such as the National Fire Protection

Association) may be used as a guide in the inspection of vessels insofar as such standards do not conflict with the requirements of this subchapter.

(R.S. 4488, as amended; 46 U.S.C. 481)

[CGFR 60-54, 25 FR 9319, Sept. 29, 1960, as amended by CGFR 68-32, 33 FR 5726, Apr. 12, 1968]

§ 176.25-5 Hull.

(a) At each initial and subsequent inspection for certification, the marine inspector shall view the vessel afloat and shall conduct the following tests and inspections of the hull structure and its appurtenances:

(1) Examine all accessible parts of the exterior and interior of the hull, the watertight bulkheads, and weather deck. Where the internals of the vessel are completely concealed, sections of the lining or ceiling may be removed or the parts otherwise probed or exposed so that the marine inspector may satisfy himself as to the condition of the hull structure.

(2) Examine and test by operation all watertight closures in the hull, decks and bulkheads.

(3) Check the condition of the superstructure, flying bridge, masts, stacks, fishing platforms and similar arrangements constructed on the hull. In sailing vessels inspect all spars, standing rigging, running rigging, blocks, fittings, and sails.

(4) Inspect all railings and bulwarks and their attachment to the hull structure. Special attention is to be paid to insure that guards or rails are provided in all dangerous places.

(5) Examine all weathertight closures above weather deck and inspect the provisions for drainage of sea water from the exposed decks.

§ 176.25-10 Machinery.

(a) At each initial and subsequent inspection for certification the marine inspector shall examine and test the following items to the extent necessary to determine that they are in proper operating condition and fit for the service for which they are intended:

(1) *Main propulsion machinery.* The marine inspector may require that the main propulsion machinery be operated both ahead and astern. The attached auxiliary machinery and cooling water system shall be checked.

(2) *Engine starting system.* Alternate methods of starting shall be checked.

(3) *Engine control mechanisms.* Such mechanisms shall be tested by operation and examined, visually, throughout their length.

(4) *Auxiliary machinery.* All machinery essential to the routine operation of the vessel shall be checked.

(5) *Fuel systems.* Tanks, tank vents and other appurtenances, piping and pipe fittings shall be checked. The fuel systems for the main propulsion engines, all auxiliaries and all other fuel systems installed shall be checked. All valves in the fuel lines shall be tested by operation locally and at remote operating positions.

(6) *Sea valves and bulkhead closure valves.* All overboard discharge and intake valves shall be checked.

(7) *Bilge and drainage systems.* The means provided for pumping bilges shall be tested by operation. All suction strainers shall be examined.

(b) At all inspections special attention shall be paid to insure that no fire hazards exist and that guards or protective devices are provided in all hazardous places.

§ 176.25-15 Electrical.

(a) At each initial and subsequent inspection for certification the marine inspector shall examine and test the following items to the extent necessary to determine that they are in proper operating condition, safe electrical condition, and fit for the service for which they are intended:

(1) *Electrical cable.* The cable shall be examined as far as practicable without undue disturbance of the cable or electrical apparatus.

(2) *Overload or circuit protective devices.* Circuit breakers shall be tested by manual operation and fuses shall be examined visually. The ratings of fuses shall be checked to determine suitability for the service intended.

(3) *Rotating machinery.* Rotating electrical machinery essential to the routine operation of the vessel shall be checked.

(4) *Generators, etc.* All generators, motors, lighting fixtures and circuit interrupting devices located in spaces or areas which may contain flammable vapors shall be checked.

(5) *Storage batteries.* Batteries shall be checked for condition and security of stowage.

(6) *Fire protective devices.* Electrical apparatus which operates as part of, or in conjunction with, a fire protective device installed on board the vessel shall be tested by operation. The test shall be applied in the same manner as, or in a manner intended to simulate, the actual operation in case of fire.

§ 176.25-20 Lifesaving equipment—S.

(a) At each initial and subsequent inspection for certification and reinspection the marine inspector shall inspect all lifesaving equipment to determine its serviceability.

(b) Life preservers, if found to be of approved type and in good condition, shall be stamped "Passed", together with the date, the port and the marine inspector's initials.

(c) A hydraulic release used in the installation of any liferaft, inflatable liferaft, lifefloat, or buoyant apparatus shall undergo the periodic servicing and testing required by Subpart 160.062 of Subchapter Q (Specifications) of this chapter every 12 months which may be extended to 15 months as determined by the date shown on its inspection tag. The springs of a spring-tensioned gripe used in such an installation shall be renewed when the accompanying hydraulic release is serviced and tested.

(d) An inflatable liferaft must meet the following:

(1) The liferaft must be approved under Subpart 160.051 of this chapter.

(2) Except as required in paragraph (d)(3) of this section, the liferaft must be marked in accordance with § 160.051-8 of this chapter.

(3) After January 1, 1976 on vessels certificated for Great Lakes service and after January 1, 1980 on other certificated vessels, the liferaft must show on or near the liferaft's nameplate, and the liferaft's container must show on or near the plate, marking approved by a Coast Guard inspector that is—

(i) An approval number consisting of "160.051/" followed by a number that is greater than 49 followed by a revision number (e.g. 160.051/50/1); or

(ii) An approval number consisting of "160.051/" followed by a number that is smaller than 50 that is followed by a revision number (e.g. 160.051/48/1), the words "MOD. TEMP.", a Coast Guard inspector's initials, and the date that an inspector found that the liferaft met § 160.051-5(c)(4) of this chapter.

(R.S. 4488, as amended; 46 U.S.C. 481)

[CGFR 60-54, 25 FR 9319, Sept. 29, 1960, as amended by CGFR 63-40, 28 FR 9737, Sept. 6, 1963; CGFR 68-32, 33 FR 5726, Apr. 12, 1968; CGD 75-040, 40 FR 58454, Dec. 17, 1975]

§ 176.25-22 Lifesaving equipment—L.

(a) At each initial and subsequent inspection for certification, the marine inspector shall inspect all lifesaving equipment to determine its serviceability.

(b) Life preservers, if found to be of approved type and in good condition shall be stamped "Passed," together with the date, the port and the marine inspector's initials.

(c) At each reinspection conducted in accordance with § 176.10-1(b), such examination of lifesaving equipment shall be made as deemed necessary by the Officer in Charge, Marine Inspection.

(d) A hydraulic release used in the installation of any liferaft, inflatable liferaft, lifefloat, or buoyant apparatus shall undergo the periodic servicing and testing required by subpart 160.062 of Subchapter Q (Specifications) of this chapter every 12 months which may be extended to 15 months as determined by the date shown on its inspection tag. The springs on a spring-tensioned gripe used in such an installation shall be renewed when the accompanying hydraulic release is serviced and tested.

(e) An inflatable liferaft must meet the following:

(1) The liferaft must be approved under Subpart 160.051 of this chapter.

(2) Except as required in paragraph (e)(3) of this section, the liferaft must be marked in accordance with § 160.051-8 of this chapter.

(3) After January 1, 1976 on vessels certificated for Great Lakes service and after January 1, 1980 on other certificated vessels, the liferaft must show on or near the liferaft's nameplate, and the liferaft's container must show on or near the plate, marking approved by a Coast Guard inspector that is—

(i) An approval number consisting of "160.051/" followed by a number that is greater than 49 followed by a revision number (e.g. 160.051/50/1); or

(ii) An approval number consisting of "160.051/" followed by a number that is smaller than 50 that is followed by a revision number (e.g. 160.051/48/1), the words "MOD. TEMP.", a Coast Guard inspector's initials, and the date that an inspector found that the liferaft met § 160.051-5(c)(4) of this chapter.

(R.S. 4488, as amended; 46 U.S.C. 481)

[CGFR 63-40, 28 FR 9737, Sept. 6, 1963, as amended by CGFR 68-32, 33 FR 5726, Apr. 12, 1968; CGD 75-040, 40 FR 58455, Dec. 17, 1975]

§ 176.25-25 Fire extinguishing equipment—S.

(a) At each initial and subsequent inspection for certification and reinspection the firefighting equipment of all vessels shall be inspected and all deficiencies found shall be corrected. The marine inspector shall conduct the following examinations and tests:

(1) The fire pump shall be tested and the fire hose shall be subjected to the available fire pump pressure.

(2) All hand portable fire extinguishers and semi-portable fire extinguishing systems shall be checked as noted in Table 176.25-25(a)(2), and in addition shall be examined for excessive corrosion and general condition.

TABLE 176.25-25(a)(2)

Type unit	Test
Soda acid	Discharge. Clean hose and inside of extinguisher thoroughly. Recharge.
Foam	Discharge. Clean hose and inside of extinguisher thoroughly. Recharge.
Pump tank (water or antifreeze).	Discharge. Clean hose and inside of extinguisher thoroughly. Recharge with clean water or antifreeze.
Cartridge operated (water, antifreeze or loaded stream).	Examine pressure cartridge and replace if end is punctured or if cartridge is otherwise determined to have leaked or to be in unsuitable condition. Remove liquid, clean hose and inside of extinguisher thoroughly. Recharge with clean water, solution, or antifreeze. Insert charged cartridge.
Carbon dioxide	Weigh cylinders. Recharge if weight loss exceeds 10 percent of weight of charge. Inspect hose and nozzle to be sure they are clear.
Dry chemical (cartridge-operated type).	Examine pressure cartridge and replace if end is punctured or if cartridge is otherwise determined to have leaked or to be in unsuitable condition. Inspect hose and nozzle to see if they are clear. Insert charged cartridge. Be sure dry chemical is free-flowing (not caked) and chamber contains full charge
Dry chemical (stored pressure type).	See that pressure gage is in operating range. If not, or if seal is broken, weigh or otherwise determine that full charge of dry chemical is in extinguisher. Recharge if pressure is low or if dry chemical is needed.

(3) All cylinders of fixed carbon dioxide systems shall be weighed and if the weight loss exceeds 10 percent of the weight of the charge, they shall be recharged. All cylinders shall be examined externally and if excessive corrosion is found they shall be replaced.

(b) During the inspection for certification and reinspection, all or any part of the fire apparatus may be service tested.

(c) In addition to the other requirements of this section, §147.04-1 of Subchapter N (Dangerous Cargoes) of this chapter requires that—

(1) Carbon dioxide cylinders of all portable and semiportable extinguishers and fixed systems be tested and marked;

(2) Flexible connections of semiportable and fixed carbon dioxide systems be renewed or tested; and

(3) Discharge hoses of semiportable carbon dioxide systems be tested.

NOTE: Section 147.04-1 of Subchapter N of this chapter includes requirements that such cylinders shall be retested and remarked under the following conditions: (1) Whenever a cylinder is recharged or for any cause removed from a vessel subsequent to 5 years from the latest test date stamped on the shoulder of the cylinder; or, (2) Whenever a cylinder remains in place on a vessel for 12 years from the latest test date stamped on the shoulder of the cylinder. Cylinders retested under any of the above conditions shall have new or renewed valve and safety relief devices of the proper design installed in the cylinder.

(R.S. 4472, as amended, 4488, as amended, 4491, as amended; 46 U.S.C. 170, 481, 489; 46 U.S.C. 375, 390b, 391a, 416, 481; 49 U.S.C. 1655(b); 49 CFR 1.46)

[CGFR 60-54, 25 FR 9319, Sept. 29, 1960, as amended by CGFR 63-40, 28 FR 9737, Sept. 6, 1963; CGFR 66-33, 31 FR 15298, Dec. 6, 1966; CGFR 68-32, 33 FR 5726, Apr. 12, 1968; CGD 78-154, 44 FR 13492, Mar. 12, 1979]

§ 176.25-27 Fire extinguishing equipment—L.

(a) At each initial and subsequent inspection for certification, the provisions of § 176.25-25 shall apply.

(b) At each reinspection conducted in accordance with § 176.10-1(b), such examination of fire extinguishing equipment shall be made as deemed necessary by the Officer in Charge, Marine Inspection.

(R.S. 4472, as amended, 4488, as amended, 4491, as amended; 46 U.S.C. 170, 481, 489)

[CGFR 63-40, 28 FR 9738, Sept. 6, 1963, as amended by CGFR 68-32, 33 FR 5726, Apr. 12, 1968]

§ 176.25-30 Pressure vessels—S.

(a) At each initial and subsequent inspection for certification the marine inspector shall examine and test all boilers and unfired pressure vessels to the extent necessary to determine that their condition is satisfactory and that they are fit for the service for which intended.

(R.S. 4433, as amended; 46 U.S.C. 411)

(b) At each inspection for certification after the initial inspection, the following examinations and tests shall be held:

(1) All boilers and unfired pressure vessels shall be examined under operating conditions.

(2) The setting of safety valves or relief valves on boilers and unfired pressure vessels shall be checked.

(3) Pressure vessels which required initial Coast Guard shop inspection and stamping, and which are fitted with inspection openings shall be examined internally. Tubular heat exchangers, hydraulic accumulators and those pressure vessels used in refrigeration service need not be examined internally.

(4) All pressure vessels that require initial Coast Guard shop inspection and stamping other than those exempt by the provisions of this paragraph, shall be subjected to hydrostatic test of 1¼ times the maximum allowable working pressure.

(5) The following unfired pressure vessels will not normally be subjected to a hydrostatic test:

(i) Tubular heat exchangers.

(ii) Pressure vessels used in refrigeration service.

(iii) Hydraulic accumulators.

(iv) Unfired pressure vessels which have been satisfactorily examined internally by a marine inspector and in which no defects have been found which impair the safety of the pressure vessel.

(v) Pressure vessels which were exempt from initial Coast Guard shop inspection and stamping.

(vi) Pressure vessels which received an initial pneumatic test in lieu of a hydrostatic test as permitted by § 54.10-15 of Subchapter F (Marine Engineering) of this chapter and which cannot be hydrostatically tested.

(c) Main propulsion boilers, auxiliary boilers, and unfired pressure vessels containing liquefied compressed gases or hazardous liquids, shall be given special consideration and shall be subjected to such tests and inspections as deemed necessary and specified by the Officer in Charge, Marine Inspection, to insure that they are in a safe condition. Periodic tests and examinations shall be as described in Part 61 of Subchapter F (Marine Engineering) of this chapter, except heating boilers as defined in Part 53 of Subchapter F of this chapter shall be tested or examined every three years.

[CGFR 60-54, 25 FR 9319, Sept. 29, 1960, as amended by CGFR 63-40, 28 FR 9737, Sept. 6, 1963; CGFR 68-82, 33 FR 18909, Dec. 18, 1968]

§ 176.25-32 Pressure vessels—L.

(a) At each initial and subsequent inspection for certification, the provisions of § 176.25-30 shall apply except that those examinations and tests required by § 176.25-30 (b)(3) and (b)(4) shall be performed triennially at the time of regular annual inspection.

[CGFR 63-40, 28 FR 9738, Sept. 6, 1963]

§ 176.25-35 Steering apparatus.

(a) At each initial and subsequent inspection for certification and reinspection the marine inspector shall examine and test the main and auxiliary steering apparatus to the extent necessary to determine that its condition is satisfactory and that it is fit for the service intended. The main and auxiliary steering apparatus shall be tested by operation and the inspector shall examine the mechanism thereof throughout its length.

§ 176.25-40 Miscellaneous systems and equipment.

(a) At each initial and subsequent inspection for certification and reinspection the inspector shall examine and test all items in the ship's outfit, such as ground tackle, navigation lights, compass, etc., which are required to be carried by the regulations in this subchapter. Such examination and test shall be to the extent necessary to determine that the condition of the item is satisfactory and that it is fit for the service intended.

(b) Approved work vests, where carried, shall be inspected as provided in § 184.40-15 of this subchapter.

(R.S. 4488, as amended, 4491, as amended; 46 U.S.C. 481, 489)

[CGFR 60-54, 25 FR 9319, Sept. 29, 1960, as amended by CGFR 68-32, 33 FR 5726, Apr. 12, 1968]

§ 176.25-45 Sanitary inspection.

(a) At each initial and subsequent inspection for certification and reinspection the marine inspector shall examine the passenger and crew quarters, toilet and washing spaces, galleys, serving pantries, lockers, etc., to determine that they are serviceable and in a sanitary condition.

§ 176.25-50 Unsafe practices.

(a) At each initial and subsequent inspection for certification, reinspection and at every other vessel inspection the marine inspector shall require that all observed unsafe practices and hazardous situations be corrected.

(b) At each inspection for certification and reinspection the marine inspector shall examine the bilges and other spaces to see that there is no accumulation of oil or other matter which might create a fire hazard.

Subpart 176.30—Limitations of Inspections

§ 176.30-1 Marine inspector not limited.

(a) Nothing in this part shall be construed as limiting the marine inspector from making such tests or inspections as are reasonable and practicable to be assured of the seaworthiness of the vessel.

Subpart 176.35—International Convention for Safety of Life at Sea, 1960

AUTHORITY: The provisions of this Subpart 176.35 interpret or apply E.O. 11239.

SOURCE: CGFR 65-9, 30 FR 11494, Sept. 8, 1965, unless otherwise noted.

§ 176.35-1 Vessels subject to requirements.

(a) Except as otherwise provided in this subpart, all mechanically propelled vessels registered in the United States or the Commonwealth of Puerto Rico, which carry more than 12 passengers on an international voyage as defined in § 176.35-5 or § 176.35-10 shall be in compliance with the applicable requirements of the International Convention for Safety of Life at Sea, 1960.

(b) The International Convention for Safety of Life at Sea, 1960, does not apply to vessels "solely navigating the Great Lakes of North America and the River St. Lawrence as far east as a straight line drawn from Cap de Rosiers to West Point, Anticosti Island and, on the north side of Anticosti Island, the 63d Meridian."

(c) In accordance with Regulation 4, Chapter I (General Provisions) of the International Convention for Safety of Life at Sea, 1960, a vessel which is not normally engaged on an international voyage but which, in exceptional circumstances, is required to undertake a single international voyage may be exempted by the Commandant from any of the requirements of the Regulations of the Convention: *Provided*, That it complies with safety requirements which are adequate in his opinion for the voyage which is to be undertaken.

(d) In accordance with Regulation 1(c), Chapter II (Construction) of the International Convention for Safety of Life at Sea, 1960, the Commandant may, if he considers that the sheltered nature and conditions of the voyage are such as to render the application of any specific requirements of Chapter II of this Convention unreasonable or unnecessary, exempt from those requirements individual vessels or classes of vessels which, in the course of their voyage, do not proceed more than 20 miles from the nearest land.

(e) In accordance with Regulation 3(a), Chapter III (Lifesaving Appliances, etc.) of the International Convention for Safety of Life at Sea, 1960, the Commandant, if he considers that the sheltered nature and conditions of the voyage are such as to render the application of the full requirements of Chapter III of this Convention unreasonable or unnecessary, may to that extent exempt from the requirements of Chapter III individual vessels or classes of vessels which, in the course of their voyage, do not go more than 20 miles from the nearest land.

§ 176.35-5 International voyage.

(a) The term "international voyage" as used in this subchapter shall have the same meaning as that contained in Regulation 2(d), Chapter I of the International Convention for Safety of Life at Sea, 1960, i.e., "'International voyage' means a voyage from a country to which the present Convention applies to a port outside such country, or conversely; and for this purpose every territory for the international relations of which a Contracting Government is responsible or for which the United Nations are the administering authority is regarded as a separate country."

(b) For the purposes of this subchapter vessels shall not be considered as being on an "international voyage" when "solely navigating the Great Lakes of North American and the River St. Lawrence as far east as a straight line drawn from Cap de Rosiers to West Point, Anticosti Island and, on the north side of Anticosti Island, the 63d Meridian."

(c) For the purposes of this subchapter the term "territory" as used in paragraph (a) of this section shall be considered to include the Commonwealth of Puerto Rico, all possessions of the United States, and all lands held by the United States under a protectorate or mandate.

(d) Any Officer in Charge, Marine Inspection, can furnish information as to the countries to which the Convention applies. These countries include the continental United States, Alaska, Hawaii, and the Commonwealth of Puerto Rico.

[CGFR 65-9, 30 FR 11494, Sept. 8, 1965, as amended by CGD 80-123, 45 FR 64586, Sept. 30, 1980]

§ 176.35-10 Voyage between continental United States and Hawaii or Alaska or between Hawaii and Alaska.

(a) Although voyages between the continental United States and Hawaii or Alaska and voyages between Hawaii and Alaska are not "international voyages" under the provisions of the International Convention for Safety of Life at Sea, 1960, such voyages are similar in nature and shall be considered as "international voyages" and subject to the same requirements for the purposes of this subchapter.

§ 176.35-15 Passenger Ship Safety Certificate.

(a) All vessels, which carry more than 12 passengers on an international voyage, are required to have a "Passenger Ship Safety Certificate."

(b) Any such vessel which is less than 100 gross tons shall meet the applicable requirements of this chapter for vessels on an international voyage.

§ 176.35-20 Exemption Certificate.

(a) A vessel may be exempted by the Commandant from complying with certain requirements of the Convention under his administration upon request made in writing to him and transmitted via the Officer in Charge, Marine Inspection.

(b) When an exemption is granted to a vessel by the Commandant under and in accordance with the Convention, an Exemption Certificate describing such exemption shall be issued through the appropriate Officer in Charge, Marine Inspection, in addition to the Passenger Ship Safety Certificate.

§ 176.35-25 Posting of Convention certificates.

(a) The certificates described in this subpart, or certified copies thereof, when issued to a vessel shall be posted in a prominent and accessible place on the vessel.

(b) The certificate shall be carried in a manner similar to that described in § 176.01-40 for a certificate of inspection.

§ 176.35-30 Duration of certificates.

(a) The certificates shall be issued for a period of not more than 12 months.

(b) An Exemption Certificate shall not be valid for longer than the period of the Passenger Ship Safety Certificate to which it refers.

(c) The Passenger Ship Safety Certificate may be withdrawn, revoked, or suspended at any time when it is determined the vessel is no longer in compliance with applicable requirements. (See § 2.01-70 of this chapter for procedures governing appeals.)

PART 177—CONSTRUCTION AND ARRANGEMENT

Subpart 177.01—Application and Intent

Sec.

177.01-1 Application.
177.01-5 Intent.

Subpart 177.05—Plans

177.05-1 Plans required for vessels carrying not more than 150 passengers—S.
177.05-3 Plans required for "S" vessels carrying more than 150 passengers, all "L" vessels, and certain other vessels.
177.05-5 Plans for sister vessels.

Subpart 177.10—Hull Structure

177.10-1 Structural standards.
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Subpart 177.15—Means of Escape

177.15-1 Requirements.

Subpart 177.20—Ventilation (Other Than Machinery Spaces)

177.20-1 Ventilation for closed spaces.
177.20-5 Ventilation for crew quarters and passenger spaces.

Subpart 177.25—Crew Accommodations

177.25-1 Where required.

Subpart 177.30—Passenger Accommodations

177.30-1 Seating.
177.30-5 Toilet facilities.
177.30-7 Lounge arrangements.

Subpart 177.35—Rails and Guards

177.35-1 Deck rails.
177.35-5 Storm rails.
177.35-10 Vessels carrying vehicles.
177.35-15 Guards in hazardous places.

AUTHORITY: R.S. 4405, as amended, 4462, as amended, sec. 3, 70 Stat. 152, sec. 6(b)(1), 80 Stat. 938; 46 U.S.C. 375, 416, 390b, 49 U.S.C. 1655(b); 49 CFR 1.4(a)(2). Interpret or apply R.S. 4417, as amended, 4418, as amended, 4426, as amended, 4488, as amended; 46 U.S.C. 391, 392, 404, 481.

SOURCE: CGFR 60-54, 25 FR 9323, Sept. 29, 1960, unless otherwise noted.

Subpart 177.01—Application and Intent

§ 177.01-1 Application.

(a) The provisions of this part shall apply to all vessels contracted for on or after June 1, 1958. Vessels contracted for prior to that date shall meet the requirements of this part insofar as is deemed reasonable and practicable by the Officer in Charge, Marine Inspection.

§ 177.01-5 Intent.

(a) The intent of this part is to insure that the scantlings, material, fastenings, workmanship and arrangement of each vessel are such as to provide for safe operation in accordance with the terms of its certificate of inspection. Primary consideration shall be given to the provision of a seaworthy hull, protection against fire, means of escape in case of sudden unexpected casualty, guards and rails in hazardous places, ventilation of closed spaces, and necessary facilities for passengers and crew.

Subpart 177.05—Plans

§ 177.05-1 Plans required for vessels carrying not more than 150 passengers—S.

(a) Except as otherwise provided in paragraphs (c) and (d) of this section and § 177.05-5, the owner or builder shall, prior to the start of construction if practicable, or in any case prior to the initial inspection of the vessel, submit for approval by the Officer in Charge, Marine Inspection, of the inspection zone where the vessel is to be inspected, at least one copy of each of the following plans:

(1) Midship section.

(2) Outboard profile.

(3) Inboard profile.

(4) Arrangement of decks.

(5) Machinery installation.

(6) Electrical installation.

(7) Fuel tanks.

(8) Piping systems.

(9) Hull penetrations and shell connections.

(b) Additional prints of the required plans may, at the owner's option, be submitted for approval. Such additional copies will be stamped and returned for the owner's records.

(c) The Officer in Charge, Marine Inspection, may accept specifications, sketches, photographs, line drawings or written descriptions in lieu of any or all of the required drawings provided the required information is adequately detailed thereon.

(d) The Officer in Charge, Marine Inspection, need not require some or all of the plans called for by paragraph (a) of this section if, to his own knowledge, the design and construction of the vessel are of a type which has a proven record of safe operation in similar service upon similar waters.

[CGFR 60-54, 25 FR 9323, Sept. 29, 1960, as amended by CGFR 63-40, 28 FR 9738, Sept. 6, 1963]

§ 177.05-3 Plans required for "S" vessels carrying more than 150 passengers, all "L" vessels, and certain other vessels.

(a) *S and L.* The owner or builder shall, prior to the start of construction if practicable, or in any case prior to the initial inspection of the vessel, submit for approval to the Officer in Charge, Marine Inspection, of the inspection zone where the vessel is to be inspected, at least two copies of each of the plans listed in § 177.05-1(a). Prior to the initial certification, the owner or builder shall submit for approval by the Commandant two copies of each of the following plans:

(1) Lines and offsets.

(2) Curves of form.

(3) Capacities of the tanks, including sizes and locations in vessel.

(b) *S and L.* Additional calculations and data shall be submitted as required by §§ 178.20-5(a) and 179.10-5(a) of this subchapter.

(c) *S.* If a vessel carrying not more than 150 passengers for any reason is required or elects to have a stability test according to the standards and procedures set forth in Subchapter H (Passenger Vessels) of this chapter; the additional plans listed in paragraph (a) of this section shall be submitted together with the calculations and data required by § 179.10-5(a) of this subchapter.

(d) *S.* If a vessel carrying not more than 150 passengers for any reason is required or elects to meet one compartment subdivision and damage stability requirements calculated in accordance with Subchapter H (Passenger Vessels) of this chapter, the additional plans listed in paragraph (a) of this section shall be submitted together with the calculations and data required by § 178.20-5(a) of this subchapter.

(e) *S.* Where internal buoyancy is installed in accordance with § 178.10-1(b) of this subchapter, the plans and calculations demonstrating compliance with such paragraph shall be submitted for approval.

[CGFR 63-40, 23 FR 9738, Sept. 6, 1963]

§ 177.05-5 Plans for sister vessels.

(a) Plans will not be required for any vessel which is a sister ship to a vessel, the approved plans for which are already on file at any Marine Inspection Office: *Provided,* That the owner of the plans authorizes their use for the new construction.

Subpart 177.10—Hull Structure

§ 177.10-1 Structural standards.

(a) In general, compliance with the standards established by a recognized classification society[1] will be considered satisfactory evidence of the structural adequacy of a vessel. When scantlings differ from such standards and it can be demonstrated that craft approximating the same size, power and displacement have been built to such scantlings and have been in satisfactory service insofar as structural adequacy is concerned for a period of at least 5 years, such scantlings may be approved. A detailed structural analysis may be required for specialized types or integral parts thereof.

(b) Special consideration will be given to:

(1) The structural requirements of vessels not contemplated by the standards of a recognized classification society; or,

(2) The use of materials not specifically included in these standards.

§ 177.10-5 Fire protection.

(a) The general construction of the vessel shall be such as to minimize fire hazards insofar as reasonable and practicable. Vessels contracted for on or after July 1, 1961, which carry more than 150 passengers shall meet the requirements of Subpart 72.05 of Subchapter H (Passenger Vessels) of this chapter. The application of these requirements to specific vessels shall be as determined by the Officer in Charge, Marine Inspection.

(a-1) Except for a vessel complying with the requirements contained in paragraph (a-2) of this section, each hull, structural bulkhead, deck, or deckhouse made of fibrous glass reinforced plastic on each vessel that carries 150 passengers or less must be constructed with fire retardant resins, laminates of which have been demonstrated to meet military specification MIL-R-21607 after 1-year exposure to weather. Military specification MIL-R-21607 may be obtained from the Commanding Officer, Naval Supply Depot, 5801 Tabor Avenue, Philadelphia, PA 19120.

(a-2) Each hull, structural bulkhead, deck, or deckhouse, made of fibrous reinforced plastic on a vessel that carries 150 passengers or less, that was certificated on July 11, 1973, and remains certificated may continue in service. Any repairs must be as follows:

(1) Minor repairs and alterations must be made to the same standard as the original construction or a higher standard; and

(2) Major alterations and conversions must comply with the requirements of this subpart.

(b) Internal combustion engine exhausts, boiler and galley uptakes, and similar sources of ignition shall be kept clear of and suitably insulated from any woodwork or other combustible matter.

(c) Lamp, paint, and oil lockers and similar compartments shall be constructed of metal or lined with metal.

(R.S. 4405, as amended (46 U.S.C. 375), sec. 3, 70 Stat. 152 (46 U.S.C. 390b), R.S. 4462, as amended (46 U.S.C. 416), sec. 6(b)(1), 80 Stat. 937 (49 U.S.C. 1655(b)(1); 49 CFR 1.46 (b))

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[1] Lloyds' "Rules for the Construction and Classification of Composite and Steel Yachts" and Lloyds' "Rules for the Construction and Classification of Wood Yachts" are acceptable for this purpose.

[CGFR 60-54, 25 FR 9323, Sept. 29, 1960, as amended by CGFR 63-40, 28 FR 9738, Sept. 6, 1963; CGD 72-68R, 37 FR 26111, Dec. 8, 1972]

Subpart 177.15—Means of Escape

§ 177.15-1 Requirements.

(a) Except as otherwise provided in this section, all vessels shall be provided with not less than two avenues of escape from all general areas accessible to the passengers or where the crew may be quartered or normally employed, so located that if one is not available the other may be. At least one of the avenues of escape shall be independent of watertight doors. Windows and windshields of sufficient size and proper accessibility may be used as one avenue of escape.

(b) Where the length of the compartment is less than 12 feet, one vertical means of escape will be acceptable under the following conditions:

(1) There is no source of fire in the space, such as galley stove, heater, etc., and the vertical escape is remote from the engine or fuel tank space; or,

(2) The arrangement is such that the installation of two means of escape does not materially improve the safety of the vessel or those on board.

Subpart 177.20—Ventilation (Other Than Machinery Spaces)

§ 177.20-1 Ventilation for closed spaces.

(a) All enclosed spaces within the vessel shall be properly vented or ventilated. Where such openings would endanger the vessel under adverse weather conditions, means shall be provided to close them.

§ 177.20-5 Ventilation for crew quarters and passenger spaces.

(a) All crew and passenger spaces shall be adequately ventilated in a manner suitable to the purpose of the space.

Subpart 177.25—Crew Accommodations

§ 177.25-1 Where required.

(a) All vessels with crew members living on board shall be provided with crew accommodations of sufficient size, adequate construction, and with suitable equipment to provide for the protection and accommodation of the crew in a manner practicable for the size, facilities, and service of the vessel.

Subpart 177.30—Passenger Accommodations

§ 177.30-1 Seating.

(a) Seating accommodations for passengers are required to be provided only when the maximum number of passengers permitted has been determined by using the fixed seating criteria in § 176.01-25(b) of this subchapter.

(b) Where fixed seats are installed, the seat spacing shall be such as to provide for ready escape in case of fire or other casualty.

(c) Fixed seats shall be installed as follows, except that special consideration may be given in cases where it can be shown that escape over the side can be made readily through windows or other openings in the way of seats:

(1) Aisles not over 15 feet long shall be not less than 24 inches wide.

(2) Aisles over 15 feet long shall be not less than 30 inches wide.

(3) Where the seats are in rows the distance from seat front to seat front shall be not less than 30 inches.

(d) In general, portable or temporary seats shall be arranged as specified for fixed seating.

§ 177.30-5 Toilet facilities.

(a) Vessels shall be provided with toilets and wash basins in accordance with Table 177.30-5(a) except that vessels operating on short runs of approximately 30 minutes or less need not be fitted with toilets or wash basins.

TABLE 177.30-5(a)

Number of passengers	Toilets	Wash basins
49 and less	1	0
Over 49 (Men and women)	1 for men 1 for women	1 for men 1 for women
Over 49 (Men only)	2	1

(b) All toilets and wash basins provided shall be fitted with adequate plumbing. Facilities for men and women shall be in separate compartments.

§ 177.30-7 Lounge arrangements.

(a) The specific requirements in this section apply to passenger lounge areas located below the main deck. Variation from these requirements may be authorized by the Officer in Charge, Marine Inspection, for unusual arrangements or design: *Provided*, That there is no significant reduction of space, accessibility or sanitation.

(b) Bunks, where installed, shall have a minimum length of 74 inches and a minimum width of 24 inches. They may be constructed of wood or metal. Mattress is to be covered with material which has been treated to give it fire resistant properties and which will provide the mattress with a reasonably smooth surface free of sharp depressions. (Example: Treated duck stretched smoothly, fully sewn, covering the basic mattress.) Arrangement shall be not more than three high, with a minimum distance of 24 inches vertically between bunks; ladders or steps shall be provided for each top bunk. Construction and arrangement shall allow free and unobstructed access to the bunks. Each bunk shall be immediately adjacent to an aisle leading to a means of escape from the lounge area.

(c) Means of escape from lounge areas shall be provided in accordance with Subpart 177.15. Aisles alongside bunks shall be not less than 24 inches in width and after the joining of two or more aisles, the width of the aisles leading to an escape shall be not less than 42 inches. Head room in lounge areas shall be not less than 74 inches which may be reduced at the sides of the space to allow for camber, wiring, ventilation ducts or piping. However, main aisles leading to exits shall have not less than 74 inches clear head room. All aisles shall be kept clear of obstructions.

(d) Covered metal trash containers shall be provided in lounge areas and the spaces shall be maintained to minimize fire and safety hazards and to preserve sanitary conditions. Portable fire extinguishers shall be provided as indicated in Subpart 181.30 of this subchapter.

[CGFR 63-40, 28 FR 9738, Sept. 6, 1963]

Subpart 177.35—Rails and Guards

§ 177.35-1 Deck rails.

(a) Except as otherwise provided in this section, rails or equivalent protection shall be installed near the periphery of all weather decks accessible to passengers and crews. Where space limitations make deck rails impractical such as at narrow catwalks in way of deckhouse sides, hand grabs may be substituted.

(b) Rails shall consist of evenly spaced courses and the spacing between courses shall be not greater than 12 inches except as provided by paragraph (f) of this section. The lower rail courses may not be required where all or part of the space below the upper rail course is fitted with a bulwark, chain link fencing, wire mesh or the equivalent.

(c) On passenger decks of vessels engaged in a ferry or excursion type operation, rails shall be at least 42 inches high. The space below the rail shall be fitted with bulwarks, chain link fencing, wire mesh, or the equivalent.

(d) On sport fishing vessels where it can be shown that higher rails would interfere with the normal operation of the vessel, rails of at least 30 inches height may be permitted.

(e) Where the principal business of the vessel requires the discharge of personnel in a seaway, the peripheral rails may be wholly or partially omitted or reduced in height to not less than 30 inches. When such rails are omitted, center rails or other suitable hand holds shall be substituted therefor.

(f) For vessels subject to the 1966 International Convention on Load Lines the height of rails and bulwarks installed at the peripheries of the freeboard and superstructure decks shall be at least 39½ inches. However where this height would interfere with the normal operation of the ship, a lesser height may be approved if the cognizant Officer in Charge, Marine Inspection is satisfied that adequate protection is provided. The opening below the lowest course shall not be more than 9 inches and the courses shall not be more than 15 inches apart.

(g) All rails other than those noted in the preceding paragraphs, shall be at least 36 inches high.

(h) Sailing vessels, small vessels of the open launch type, and other vessels not specifically covered elsewhere in this section shall have such rails or equivalent protection as considered necessary by the Officer in Charge, Marine Inspection.

(Sec. 2, 45 Stat. 1493, as amended, sec. 2, 49 Stat. 888; 46 U.S.C. 85a, 88a)

[CGFR 60-64, 25 FR 9319, Sept. 29, 1960, as amended by CGFR 69-72, 34 FR 17503, Oct. 29, 1969]

§ 177.35-5 Storm rails.

(a) Suitable storm rails or hand grabs shall be installed where necessary in all passageways, at deckhouse sides, and at ladders and hatches where passengers or crew might have normal access.

§ 177.35-10 Vessels carrying vehicles.

(a) On vessels carrying vehicles, suitable chains, cable, or other barriers shall be installed at the ends of the vehicle runways. In addition, suitable gates, rails, or other devices shall be installed as a continuation of the regularly required rails.

§ 177.35-15 Guards in hazardous places.

(a) Suitable covers, guards, or rails shall be installed in way of all exposed and hazardous places such as gears, machinery, etc.

PART 178—WATERTIGHT INTEGRITY AND SUBDIVISION

Subpart 178.01—Application

Sec.

178.01-1 General.

Subpart 178.05—Definitions of Terms Used in This Part

178.05-1 Bulkhead deck.
178.05-3 Watertight.
178.05-5 Weathertight.
178.05-7 Flush deck.
178.05-9 Cockpit.
178.05-11 Well deck.
178.05-13 Open boat.
178.05-15 Exposed waters.
178.05-17 Partially protected waters.
178.05-19 Protected waters.

Subpart 178.10—Watertight Bulkheads Required

178.10-1 Requirements for "S" vessels carrying more than 49 passengers and all "L" vessels.
178.10-5 Requirements for "S" vessels carrying not more than 49 passengers in ocean or coastwise service—S.
178.10-10 Requirements for "S" vessels carrying not more than 49 passengers in other than ocean or coastwise service—S.

Subpart 178.15—Collision Bulkhead

178.15-1 Location.
178.15-3 Construction.
178.15-5 Double-ended ferries.

Subpart 178.20—Location of Watertight Bulkheads

178.20-1 Requirements for "S" vessels carrying not more than 150 passengers—S.
178.20-5 Requirements for "S" vessels carrying more than 150 passengers and all "L" vessels—S and L.

Subpart 178.25—Construction of Watertight Bulkheads

178.25-1 General.

Subpart 178.30—Drainage of Weather Decks

178.30-1 Flush decks.
178.30-3 Cockpits.
178.30-5 Well-decks.
178.30-7 Open boats.

Subpart 178.35—Hatches and Coamings

178.35-1 General.

Subpart 178.40—Hull Penetrations and Shell Connections

Sec.
178.40-1 General.

AUTHORITY: R.S. 4405, as amended, 4462, as amended, sec. 3, 70 Stat. 152, sec. 6(b)(1), 80 Stat. 938; 46 U.S.C. 375, 416, 390b, 49 U.S.C. 1655(b); 49 CFR 1.4(a)(2). Interpret or apply R.S. 4417, as amended, 4418, as amended, 4426, as amended, 4453, as amended, 4488, as amended; 46 U.S.C. 391, 392, 404, 435, 481.

SOURCE: CGFR 60-54, 25 FR 9325, Sept. 29, 1960, unless otherwise noted.

Subpart 178.01—Application

§ 178.01-1 General.

(a) The provisions of this part shall apply to all vessels contracted for on or after June 1, 1958. Vessels contracted for prior to that date shall meet the requirements of this part insofar as is deemed reasonable and practicable by the Officer in Charge, Marine Inspection.

Subpart 178.05—Definitions of Terms Used in This Part

§ 178.05-1 Bulkhead deck.

(a) The bulkhead deck is the uppermost deck to which the transverse watertight bulkheads are carried.

§ 178.05-3 Watertight.

(a) An item so constructed as to effectively resist the passage of water, except for slight seepage, when subjected to a hose test with water at a pressure of 30 pounds per square inch from a one inch hose, or test equivalent thereto.

§ 178.05-5 Weathertight.

(a) An item so constructed as to effectively resist the passage of water to any appreciable degree under continuous exposure to driving rain or spray.

§ 178.05-7 Flush deck.

(a) A flush deck is a continuous weather deck located at the uppermost sheer line of the hull.

§ 178.05-9 Cockpit.

(a) A cockpit is an exposed recess in the weather deck of a vessel, extending not more than one-half the length of the vessel as defined in § 175.10-19 of this subchapter. A cockpit which extends more than one-half the length of the vessel shall be considered as a well deck. A recess is considered to be exposed unless it is completely enclosed by a superstructure which is seaworthy for the waters upon which the vessel operates.

§ 178.05-11 Well deck.

(a) A well deck is a weather deck fitted with solid bulwarks such as would impede the drainage of solid water over the sides. If the freeboard to this deck, measured from the load waterline, is less than 10 inches the vessel shall be considered as an open boat for purposes of the subdivision, stability, and drainage requirements in this subchapter. The deck within the bulwarks is considered to be a weather deck unless it is completely enclosed by a superstructure which is seaworthy for the waters upon which the vessel operates.

§ 178.05-13 Open boat.

(a) An open boat is a vessel not protected from entry of water by means of a complete deck, or by a combination of a partial weather deck and a superstructure which is seaworthy for the waters upon which the vessel operates.

§ 178.05-15 Exposed waters.

(a) In general, exposed waters are all waters more than 20 miles from the mouth of a harbor of safe refuge and, also, any waters where, in the judgment of the Officer in Charge, Marine Inspection, local conditions of sea, or weather or other circumstances create a special hazard requiring the maximum degree of seaworthiness afforded by the regulations in this subchapter.

§ 178.05-17 Partially protected waters.

(a) In general, partially protected waters are all waters within a radius of 20 miles from the mouth of a harbor of safe refuge.

§ 178.05-19 Protected waters.

(a) In general, protected waters are the waters of rivers, harbors and sheltered lakes.

Subpart 178.10—Watertight Bulkheads Required

§ 178.10-1 Requirements for "S" vessels carrying more than 49 passengers and all "L" vessels.

(a) *S and L.* Except as otherwise provided in this section, all "S" vessels carrying more than 49 passengers and all "L" vessels shall be fitted with a collision bulkhead and such additional transverse watertight bulkheads as are required to provide one compartment subdivision, i.e., so that the fully-loaded vessel shall remain afloat with positive stability with any one main compartment flooded.

(b) *S.* Vessels carrying more than 49 passengers but not more than 150 passengers may, in lieu of one compartment subdivision, be fitted with a collision bulkhead and sufficient air tankage or other internal buoyancy to maintain the fully-loaded vessel afloat with positive stability in the flooded condition.

[CGFR 63-40, 28 FR 9738, Sept. 6, 1963]

§ 178.10-5 Requirements for "S" vessels carrying not more than 49 passengers in ocean or coastwise service—S.

(a) Except as otherwise provided in this section, vessels carrying not more than 49 passengers in ocean or coastwise service shall be fitted with a collision bulkhead.

(b) On vessels less than 40 feet in length as defined in § 175.10-19 of this subchapter, carrying not more than 49 passengers on partially-protected waters, the collision bulkhead may be omitted.

[CGFR 60-54, 25 FR 9323, Sept. 29, 1960, as amended by CGFR 63-40, 28 FR 9739, Sept. 6, 1963]

§ 178.10-10 Requirements for "S" vessels carrying not more than 49 passengers in other than ocean or coastwise service—S.

(a) There are no requirements for transverse watertight bulkheads in vessels carrying not more than 49 passengers in other than ocean or coastwise service.

[CGFR 60-54, 25 FR 9323, Sept. 29, 1960, as amended by CGFR 63-40, 28 FR 9739, Sept. 6, 1963]

Subpart 178.15—Collision Bulkhead

§ 178.15-1 Location.

(a) A collision bulkhead, when required, shall be located not less than 5 percent and not more than 15 percent of the waterline length abaft the stem at the load waterline.

§ 178.15-3 Construction.

(a) The collision bulkhead shall be constructed in accordance with the provisions of Subpart 178.25, except that it shall extend to the weather deck and that it shall never be fitted with a watertight door.

(b) On vessels not required to have one compartment subdivision, the collision bulkhead may have an opening not to exceed 12 inches between the top of the bulkhead and the underside of the weather deck, provided the remaining intact bulkhead is at least 36 inches deep.

§ 178.15-5 Double-ended ferries.

(a) Double-ended ferries, if required to have a collision bulkhead, shall have one at each end.

Subpart 178.20—Location of Watertight Bulkheads

§ 178.20-1 Requirements for "S" vessels carrying not more than 150 passengers—S.

(a) For vessels carrying not more than 150 passengers, the required transverse watertight bulkheads shall be located so the lengths of the compartments do not exceed the maximum permissible lengths indicated by the following formula:

$$l = F \times f \times L \div D \qquad (1)$$

Where:

l=The maximum permissible length of the compartment in feet, except that, in no case, is this length to exceed one-third of the length of the vessel measured over the bulkhead deck.

f=Effective freeboard in feet. This is the mean of the freeboards measured from the load waterline to the top of the bulkhead deck at the side in way of the bulkheads bounding the compartment concerned. For vessels having a raised deck forward the height measurement in way of bulkheads forward of the break shall be taken to a straight line extending from the break to the raised deck at the bow. For vessels which have portlights of the opening type, the height measurement in way of the bulkheads shall not be taken higher than up to a line at least three inches below the portlights in way thereof, and thence extending straight to the bulkhead deck at the bow and at the stern.

$L \div D$=Length-Depth Factor. This is the length of the vessel in feet, measured over the bulkhead deck, divided by the depth, in feet, measured amidships of the vessel at a point one-quarter of the beam out from the centerline, from the inside of the planking or plating to the level of the top of the bulkhead deck at the side.

F=Floodable Length Factor for the compartment as listed in Table 178.20-1(a).

TABLE 178.20-1(a)

Midpoint of compartment in percent length from bow	Floodable length factor[1]
9-10	0.33
15	.33
20	.34
25	.36
30	.38
35	.43
40	.48
45	.54
50	.61
55	.63
60	.58
65	.53
70	.48
75	.44
80	.40
85	.37
90-100	.34

[1] Intermediate values of floodable length factor can be obtained by interpolation.

(b) In lieu of complying with paragraph (a) of this section, any owner may, if he so desires, determine compliance with the subdivision and damaged stability requirements by direct calculations that take into account the form and proportions of the hull. If this option is taken the provisions of § 178.20-5 and the alternate procedure of § 179.10-3 of this chapter apply. These calculations and the supporting data must be submitted to the Commandant for approval.

(c) In exceptional instances, where due to the form or design of the vessel, the Officer in Charge, Marine Inspection, does not consider the provisions of paragraph (a) of this section to be sufficiently applicable, he may require submittal of direct calculations as described in paragraph (b) of this section.

[CGFR 60-54, 25 FR 9325, Sept. 29, 1960, as amended by CGFR 63-40, 28 FR 9739, Sept. 6, 1963; CGD 72-180, 39 FR 33799, Sept. 20, 1974]

§ 178.20-5 Requirements for "S" vessels carrying more than 150 passengers and all "L" vessels--S and L.

(a) For "S" vessels carrying more than 150 passengers and all "L" vessels, engaged in international voyages, the location of the transverse watertight bulkheads to meet the requirements for subdivision and damage stability, is determined by direct calculations which take into account the form and proportions of the hull. For the purposes of this paragraph, the provisions of Subparts 73.05, 73.15 and Part 74 of Subchapter H (Passenger Vessels) of this chapter shall be applicable. These calculations and the supporting data must be submitted to the Commandant for approval.

(b) For S vessels carrying more than 150 passengers and all L vessels, not engaged in international voyages, the location of the transverse watertight bulkheads to meet the requirements for subdivision and damaged stability is determined by direct calculations that take into account the form and proportions of the hull. For the purposes of this paragraph, the provisions of Subparts 73.05, 73.15 (except 73.15-15 for vessels under 143 feet in length) and Part 74 of Subchapter H (Passenger Vessels) of this chapter apply. For vessels not over 143 feet in length, watertight bulkheads abaft the collision bulkhead, to be considered effective, may not be spaced less than 10 percent of the load waterline length but in no case may the minimum spacing be less than 6 feet. For double ended ferries, this minimum spacing applies between collision bulkheads. These calculations and supporting data must be submitted to the Commandant for approval.

[CGD 72-180, 39 FR 33799, Sept. 20, 1974]

Subpart 178.25—Construction of Watertight Bulkheads

§ 178.25-1 General.

(a) All bulkheads required by this part shall be of substantial construction so as to be capable of remaining watertight with a head of water to the top of the bulkhead.

(b) Watertight bulkheads shall extend intact to the bulkhead deck. Insofar as reasonable and practical, bulkheads shall be installed in one plane without steps or recesses.

(c) The number of penetrations in watertight bulkheads shall be reduced to a minimum. They shall be kept as high and as far inboard as practicable. Satisfactory means shall be provided for making such penetrations watertight.

(d) Sluice valves are not permitted in watertight bulkheads.

Subpart 178.30—Drainage of Weather Decks

§ 178.30-1 Flush decks.

(a) The weather deck on a flush deck vessel shall be watertight and shall have no obstruction to overboard drainage.

(b) Flush deck vessels may have solid bulwarks in the forward one-third length of the vessel provided such bulwarks do not form a well enclosed on all sides and provided that the foredeck has sufficient sheer to insure drainage aft.

§ 178.30-3 Cockpits.

(a) Cockpits shall be watertight except that companionways may be installed within the cockpit if they are fitted in accordance with the provisions of § 178.35-1(f). Also, on vessels operating on partially-protected and protected waters, ventilation openings may be provided along the inner periphery of the cockpit if they are located as high as possible in the side of the cockpit and the height of the opening does not exceed 2 inches.

(b) Cockpits shall be self-bailing. The scuppers installed for this purpose shall be located so as to be effective considering probable list and trim.

(c) The minimum combined area, in square inches, of the scuppers shall be determined by dividing the area of the cockpit, in square feet, by 10.

(d) Cockpit decks shall be located as high above the load waterline as practicable. On vessels operating on exposed or partially-protected waters, this height shall not be less than 10 inches, except that, cockpit decks of less than 10-inch freeboard may be approved by the Commandant upon demonstration that the subdivision, damaged stability and stability requirements of Subchapter H (Passenger Vessels) of this chapter are met satisfactorily.

§ 178.30-5 Well-decks.

(a) Well-decks shall be watertight.

(b) Except as otherwise provided in this section, on vessels operating on exposed or partially protected waters, for each running foot of bulwark in the after two-thirds length of the vessel there shall be provided not less than the amount of freeing port area specified in Table 178.30-5(b). The freeing ports shall be located so as to be effective considering probable list and trim. If the vessel is of such a design that there is not free drainage from the foredeck aft, then freeing ports in accordance with Table 178.30-5(b) shall be provided on the basis of the entire length of the bulwark fitted.

TABLE 178.30-5(b)

Depth of well or height of solid bulwark in inches	Freeing port area in square inches per foot of bulwark length [1]
6	2
12	4
18	8
24	12
30	16
36	20

[1] Intermediate values of freeing port area can be obtained by interpolation.

(c) Vessels operating on partially protected waters but with a reserve of stability sufficient to meet the stability requirements for exposed waters shall comply with the provisions of paragraph (b) of this section except that such vessels may be provided with not less than 50 percent of the amount of freeing port area specified in Table 178.30-5(b).

(d) On vessels operating on protected waters, the freeing port area draining well-decks shall be at least equivalent to that required for a cockpit of the same size by § 178.30-3(c).

[CGFR 61-13, 26 FR 3927, May 5, 1961]

§ 178.30-7 Open boats.

(a) A deck within the hull of an open boat, if provided, shall drain to the bilge. Overboard drainage of the deck is not permitted.

Subpart 178.35—Hatches and Coamings

§ 178.35-1 General.

(a) Except as otherwise provided in this section, all hatches exposed to the weather shall be of watertight construction.

(b) Hatches on watertight trunks extending not less than 12 inches above the weather deck and hatches in cabin tops may be weathertight.

(c) On vessels operating on protected waters, all hatches may be weathertight.

(d) Covers or closures for all hatches on weather decks, trunks, or cabin trunks shall be fitted with securing devices and shall be attached to the hatch frame or coaming by hinges, captive chains, or other devices to prevent their coming adrift.

(e) Securing devices for required escape hatches which lead to living quarters or passenger accommodations shall be such that the hatch may be opened from either side.

(f) Openings in deck houses or in companionways which give access into the hull and which are located in cockpits, wells, or in exposed locations on flush decked vessels, shall be fitted with weathertight doors and shall have permanent watertight coamings in accordance with Table 178.35-1(f).

TABLE 178.35-1(f)

Route	Height of coaming
Exposed or partially protected	6 inches
Protected	3 inches

(1) If substantially constructed, hinged, watertight doors, equipped with dogs and gaskets, are provided where coamings are required, the height of the coaming need only be sufficient to accommodate the door.

Subpart 178.40—Hull Penetrations and Shell Connections

§ 178.40-1 General.

(a) The number of openings in the vessel's sides below the weather deck shall be a minimum.

(b) Portlights which can be opened are not permitted in the vessel's sides on vessels operating on exposed or partially-protected waters except as follows:

(1) On vessels which are not required to meet the one compartment standard of subdivision, they may be permitted if the lower rim of each portlight is at least 30 inches above the load waterline.

(2) On vessels which are required to meet the one compartment standard of subdivision, they may be permitted if the lower rim of each portlight is at least 30 inches above the load water line. Additionally, in determining compliance with the one compartment standard, the portlights shall be treated in the manner set forth in § 178.20-1(a). If the subdivision is calculated as prescribed by Subchapter H (Passenger Vessels) of this chapter, the damage trim water lines shall be taken not less than 3 inches below the portlights.

(c) All portlights which are permitted in a vessel's sides on vessels operating on exposed or partially-protected waters, whether of the opening or the fixed type, shall be fitted with dead covers.

(d) All inlets and discharges led through the vessel's hull below a line drawn parallel to and not less than six inches above the load waterline shall be fitted with efficient and accessible means for preventing the accidental admission of water into the vessel in the event of fracture or failure of such pipes. Engine exhausts led through the hull are not required to have such means of closure. Cast iron hull connections or valves are not permitted. Plug cocks shall be constructed with satisfactory and positive means of preventing the plug from becoming loosened or removed from the body when the plug is operated. Cocks having plug locking arrangements depending on cotter pins are prohibited.

(e) Positive action valves or cocks located against the hull or as close as possible to the hull in way of intake and/or discharge piping will be acceptable provided they are readily accessible. Shutoff valves with positive means of closing from the weather deck will be required in way of hull connections which are inaccessible. The remote closure shall be labeled for identity and direction of closing.

PART 179—STABILITY

Subpart 179.01—Application

Sec.
179.01-1 General.

Subpart 179.05—Stability Test

179.05-1 When required.

Subpart 179.10—Stability Test Procedure

179.10-1 Procedure for "S" vessels carrying not more than 150 passengers—S.
179.10-3 Alternate procedure for "S" vessels carrying not more than 150 passengers—S.
179.10-5 Procedure for "S" vessels carrying more than 150 passengers and all "L" vessels—S and L.

Subpart 179.15—Alteration of Vessel

179.15-1 General.

Subpart 179.20—Stability Letter

179.20-1 Posting.
179.20-5 Conditions of operation.

Authority: R.S. 4405, as amended, 4462, as amended, sec. 3, 70 Stat. 152, sec. 6(b)(1), 80 Stat. 938; 46 U.S.C. 375, 416, 390b, 49 U.S.C. 1655(b); 49 CFR 1.4(a)(2). Interpret or apply R.S. 4417, as amended, 4418, as amended, 4426, as amended, 4453, as amended, 4488, as amended; 46 U.S.C. 391, 392, 404, 435, 481.

Source: CGFR 60-54, 25 FR 9327, Sept. 29, 1960, unless otherwise noted.

Subpart 179.01—Application

§ 179.01-1 General.

(a) *S.* The provisions of this part shall apply to the following "S" vessels:

(1) All vessels carrying more than 49 passengers.

(2) All vessels permitted an increased passenger allowance by § 176.01-25(b) of this subchapter.

(3) Any other vessel whose stability is questioned by the Officer in Charge, Marine Inspection.

(b) *L.* The provisions of this part shall apply to all "L" vessels.

[CGFR 63-40, 28 FR 9739, Sept. 6, 1963]

Subpart 179.05—Stability Test

§ 179.05-1 When required.

(a) Except as otherwise provided in this section, each vessel to which this part applies shall be subjected to a stability test conducted by the owner, builder or his representative under the supervision of the Coast Guard. The test shall be satisfactorily completed prior to the issuance of a certificate of inspection.

(b) The Officer in Charge, Marine Inspection, may permit the stability test of a vessel to be dispensed with if the stability of an identical sister vessel has previously been ascertained to be in compliance with the provisions of this part: *Provided, however,* That the vessel is not to be employed in a more severe service or at a deeper draft than that for which the vessel was originally tested.

(c) The Commandant may allow the stability test of a vessel to be dispensed with in exceptional cases where it can be established that due to form, construction and arrangement of the vessel, the stability can be safely determined without a test.

Subpart 179.10—Stability Test Procedure

§ 179.10-1 Procedure for "S" vessels carrying not more than 150 passengers—S.

(a) The vessel is to be complete in all respects. Ballast, if necessary, is to be of the permanent, fixed type and is to be on board and in place. Fuel and water tanks are to be approximately three-quarters full.

(b) The weight of the passengers and other load, if any, is to be simulated by equivalent deadweight distributed so as to provide normal trim and to simulate the most unfavorable vertical center of gravity likely to occur in service. The number of passengers used in determining the total passenger weight shall, in no case, be more than the maximum number permitted by the applicable criteria in § 176.01-25 of this subchapter.

(c) On vessels having non-return closures on cockpit scuppers or on weather deck drains, such closures shall be restrained in the open position during the course of the test.

(d) For the purposes of this part, the weight per passenger shall be taken at 160 pounds except that on protected waters, a weight per passenger of 140 pounds may be used when the passenger load consists of men, women, and children.

(e) With deadweight on board equivalent to the total passenger and other load, if any, the vessel shall not exceed the limitations on hull immersion and angle of list set forth in paragraphs (f) and (g) of this section, when subjected to the greater of the following heeling moments:

$$M_p = W \times B_p \div 6 \qquad (1)$$

Where:

M_p=Passenger heeling moment, in foot pounds.
W=Total weight of passengers, in pounds.
B_p=Maximum beam of vessel which is accessible to the passengers, in feet.

$$M_w = P \times A \times H \qquad (2)$$

Where:

M_w=Wind heeling moment, in foot pounds.
P=Wind pressure factor, in pounds per square foot, in accordance with the following:
7.5 for protected waters;
10.0 for partially-protected waters; or
15.0 for exposed waters.
A=Area, in square feet, of the projected lateral surface of the vessel above the load waterline. This surface includes the full, superstructure and areas bounded by railings and/or structural canopies.
H=Height, in feet, to the center of area (A) above the load waterline.

(f) When subjected to the required heeling moment, the immersion of the hull due to heel, measured in way of the least freeboard (or at a point three-quarters of the length of the vessel from the bow if the least freeboard is aft of this point) shall not exceed the following, as applicable:

(1) On flush deck vessels the freeboard shall be measured to the top of the weather deck at the side and the immersion shall not be more than one-half of this freeboard.

(2) On well deck vessels the freeboard shall be measured to the top of the weather deck at side. The immersion shall not be more than one-half freeboard; except that for vessels operating on protected waters and having scuppers rather than freeing ports, immersion to the full freeboard may be permitted provided it does not exceed one-quarter the height from the load waterline to the top of the gunwale.

(3) On cockpit boats the freeboard shall be measured to the top of the gunwale. The maximum allowable immersion shall be determined as follows:

$$\text{Maximum allowable immersion (Exposed waters)} = f(2L - 1.5l)/4L \qquad (3)$$

$$\text{Maximum allowable immersion (Partially-protected or protected waters)} = f(2L - l)/4L \qquad (4)$$

Where:

f=Freeboard, in feet.
L=Length of vessel, as defined in § 175.10-19 of this subchapter.
l=Length of cockpit in feet.

(4) On open boats the freeboard shall be measured to the top of the gunwale and the maximum allowable immersion shall be one-quarter of this freeboard.

(g) When subjected to the required heeling moment, the maximum angle of list also shall not exceed 14 degrees.

(h) Vessels carrying vehicular loads, in addition to complying with the other provisions of this subpart, shall be tested to determine that maximum trim or list during loading or unloading will not be excessive.

[CGFR 60-54, 25 FR 9327, Sept. 29, 1960, as amended by CGFR 63-40, 28 FR 9739, Sept. 6, 1963]

§ 179.10-3 Alternate procedure for "S" vessels carrying not more than 150 passengers—S.

(a) In lieu of complying with § 179.10-1 any owner may, if he so desires, carry out an inclining test in accordance with the provisions of Part 74 of Subchapter H (Passenger Vessels) of this chapter. The results of the test together with the supporting plans and data shall be submitted to the Commandant for approval.

(b) In exceptional instances, where due to the form or design of the vessel, the Officer in Charge, Marine Inspection, does not consider the provisions of § 179.10-1 to be sufficiently applicable, he may require an inclining test to be carried out in accordance with the provisions of Part 74 of Subchapter H (Passenger Vessels) of this chapter. The results of the test together with the supporting plans and data shall be submitted to the Commandant for approval.

[CGFR 60-54, 25 FR 9327, Sept. 29, 1960, as amended by CGFR 63-40, 28 FR 9739, Sept. 6, 1963]

§ 179.10-5 Procedure for "S" vessels carrying more than 150 passengers and all "L" vessels—S and L.

(a) The stability of "S" vessels carrying more than 150 passengers and all "L" vessels shall be checked according to the standards and procedures set forth in Part 74 of Subchapter H (Passenger Vessels) of this chapter.

(b) The results of the test together with the supporting plans and data shall be submitted to the Commandant for approval.

[CGFR 63-40, 28 FR 9739, Sept. 6, 1963]

Subpart 179.15—Alteration of Vessel

§ 179.15-1 General.

(a) After compliance with the requirements of this part has been verified by either of the procedures set forth in Subpart 179.10, the vessel shall not be altered in any manner which would adversely affect the stability. The Officer in Charge, Marine Inspection, is to be notified, in writing, prior to removing or relocating ballast, or making any alteration which increases the lateral surface area of the vessel, increases the vessel's draft, or changes the vertical distribution of passenger spaces or weights on board.

Subpart 179.20—Stability Letter

§ 179.20-1 Posting.

(a) Each vessel subject to the requirements of this part shall have posted under glass or other transparent material in the pilothouse a stability letter issued by the United States Coast Guard. Where posting is impractical, the stability letter shall be kept on board in the custody of the licensed operator.

§ 179.20-5 Conditions of operation.

(a) The stability letter shall indicate the conditions of operation under which the vessel will have satisfactory stability.

PART 180—LIFESAVING EQUIPMENT

Subpart 180.01—Application and Intent

Sec.
180.01-1 Application.
180.01-5 Intent.

Subpart 180.05—General Provisions Pertaining to Lifesaving Equipment

180.05-1 Equipment of an approved type.
180.05-5 Equipment installed but not required.

Subpart 180.10—Primary Lifesaving Equipment Required

180.10-1 General.
180.10-5 Requirements for vessels in ocean or coastwise service.
180.10-15 Requirements for vessels in Great Lakes service.

Sec.
180.10-20 Requirements for vessels in lakes, bays, and sounds service.
180.10-25 Requirements for vessels in river service.
180.10-30 Substitutions.
180.10-35 Rescue boat—L.

Subpart 180.15—Equipment for Life Floats and Buoyant Apparatus

180.15-1 Equipment required.
180.15-5 Description of equipment for life floats and buoyant apparatus.
180.15-10 Stowage of equipment.

Subpart 180.20—Stowage and Marking of Lifesaving Appliances

180.20-1 Stowage of lifesaving appliances.
180.20-5 Marking.

Subpart 180.25—Life Preservers

180.25-1 Type required.
180.25-5 Number required.
180.25-10 Distribution and stowage.
180.25-15 Marking.
180.25-20 Personal flotation device lights.
180.25-25 Retroreflective material.

Subpart 180.30 Ring Life Buoys and Water Lights

180.30-1 General.
180.30-5 Number and size required.
180.30-10 Location, distribution, and securing.

Subpart 180.35—Pyrotechnic Distress Signals

180.35-1 General.
180.35-5 Number required.
180.35-10 Stowage.

Subpart 180.40—Emergency Position Indicating Radiobeacon (EPIRB)

180.40-1 Emergency position indicating radiobeacon (EPIRB).

AUTHORITY: R.S. 4405, as amended, 4462, as amended, sec. 3, 70 Stat. 152, sec. 6(b)(1), 80 Stat. 938; 46 U.S.C. 375, 416, 390b, 49 U.S.C. 1655(b); 49 CFR 1.4(a)(2), unless otherwise noted. Interpret or apply R.S. 4417, as amended, 4418, as amended, 4421, as amended, 4426, as amended, 4453, as amended, 4488, as amended; 46 U.S.C. 391, 392, 399, 404, 435, 481.

SOURCE: CGFR 60-54, 25 FR 9329, Sept. 29, 1960, unless otherwise noted.

Subpart 180.01—Application and Intent

§ 180.01-1 Application.

(a) The provisions of this part shall apply to all vessels except as specifically noted in this part.

§ 180.01-5 Intent.

(a) The intent of this part is to insure that each vessel carry sufficient lifesaving equipment to provide for timely rescue and survival of the personnel on board in the event of a casualty to the vessel. Due consideration will be given to the number of persons carried and the hazards of the route permitted.

Subpart 180.05—General Provisions Pertaining to Lifesaving Equipment

§ 180.05-1 Equipment of an approved type.

(a) Where equipment in this part is required to be of an approved type, such equipment requires the specific approval of the Commandant. Notifications regarding approvals are published in the FEDERAL REGISTER, and in addition are contained in Coast Guard publication CG-190, "Equipment Lists."

(b) Specifications for lifesaving equipment items required to be of an approved type have been promulgated and are contained in Subchapter Q (Specifications) of this chapter. In general, such specifications are of interest only to the manufacturer of specific items of equipment. The subparts in Subchapter Q containing specifications for the lifesaving equipment required by this part are as follows:

(1) Life floats	160.027.
(2) Buoyant apparatus	160.010.
(3) Lifeboats	160.035.
(4) Life rafts	160.018.
(5) Inflatable life rafts	160.051.
(6) Life preservers	160.002, 160.005, 160.055.
(7) Ring life buoys	160.009, 160.050.
(8) Water lights	161.010.
(9) Distress signals:	
Red flare	160.021.
Orange smoke	160.037.
Combination flare and smoke	160.023.
(10) Type A EPIRB's	161.011.

(R.S. 4491, as amended, sec. 6, 17, 54 Stat. 164, as amended, 166, as amended; 46 U.S.C. 489, 526e, 526p; 49 CFR 1.4(b)(1)(ii) and 1.46(b); 46 U.S.C. 369, 375, 390b, 416, and 481; 49 U.S.C. 1655; 49 CFR 1.46)

[CGFR 60-54, 25 FR 9329, Sept. 29, 1960, as amended by CGFR 65-9, 30 FR 11495, Sept. 8, 1965; CGD 73-24R, 39 FR 10140, Mar. 18, 1974; CGD 79-165a, 45 FR 64188, Sept. 29, 1980]

§ 180.05-5 Equipment installed but not required.

(a) *S and L.* Except as further modified in this section, where items of lifesaving equipment are not required, but are installed, such equipment and its installation shall meet the requirements of this part. However, the Commandant may, after suitable investigations and tests, accept lifesaving devices in excess of those required, which are of a type not contemplated by the regulations in this part, if the safety of those on board is improved thereby.

(b) *S.* Special purpose water safety buoyant devices (such as water ski vests, hunter's buoyant jackets, etc.), in order to be of an approved type, shall be constructed, listed and labeled in accordance with Subpart 160.064 of Subchapter Q (Specifications) of this chapter. Small passenger vessels may carry special purpose water safety buoyant devices of approved type as excess equipment.

[CGFR 64-30, 29 FR 7390, June 6, 1964]

Subpart 180.10—Primary Lifesaving Equipment Required

§ 180.10-1 General.

(a) All life floats and buoyant apparatus shall be of approved types.

(b) The term "primary lifesaving equipment" means a lifeboat or an acceptable substitute. The acceptable substitute may include liferafts, lifefloats, rescue boats, and buoyant apparatus under certain conditions. Life preservers and ring buoys are not included in the definitions of "primary lifesaving equipment."

(R.S. 4491, as amended; 46 U.S.C. 489)

[CGFR 60-54, 25 FR 9329, Sept. 29, 1960, as amended by CGFR 68-32, 33 FR 5726, Apr. 12, 1968]

§ 180.10-5 Requirements for vessels in ocean or coastwise service.

(a) Except as otherwise provided in this section, vessels in ocean service shall carry sufficient life floats for all persons on board, and vessels in coastwise service shall carry sufficient life floats or buoyant apparatus for all persons on board.

(1) Vessels whose routes are restricted to 20 miles from a harbor of safe refuge shall carry life floats or buoyant apparatus for not less than 50 percent of all persons on board.

(2) For vessels operating not more than one mile from land, the Officer in Charge, Marine Inspection, may permit operation with reduced amounts of life floats or buoyant apparatus when in his opinion it is safe to do so. In permitting such reduction the Officer in Charge, Marine Inspection, shall consider the vessel, its scope of operation and the hazards of the route.

(b) After July 1, 1968, all lifefloats and buoyant apparatus shall be international orange in color.

[CGFR 60-54, 25 FR 9329, Sept. 29, 1960, as amended by CGFR 68-32, 33 FR 5726, Apr. 12, 1968]

§ 180.10-15 Requirements for vessels in Great Lakes service.

(a) Except as otherwise provided in this section, vessels in Great Lakes service shall carry sufficient life floats or buoyant apparatus for not less than 50 percent of all persons on board.

(1) Vessels navigating not more than one mile from land are not required to carry life floats or buoyant apparatus.

(b) After July 1, 1968, all lifefloats and buoyant apparatus shall be international orange in color.

[CGFR 60-54, 25 FR 9329, Sept. 29, 1960, as amended by CGFR 68-32, 33 FR 5726, Apr. 12, 1968]

§ 180.10-20 Requirements for vessels in lakes, bays, and sounds service.

(a) Except as otherwise provided in this section, vessels in lakes, bays, and sounds service shall carry sufficient life floats or buoyant apparatus for not less than 30 percent of all persons on board.

(1) Vessels navigating not more than 1 mile from land are not required to carry life floats or buoyant apparatus.

(b) After July 1, 1968, all lifefloats and buoyant apparatus shall be either international orange or white in color.

[CGFR 60-54, 25 FR 9329, Sept. 29, 1960, as amended by CGFR 68-32, 33 FR 5726, Apr. 12, 1968]

§ 180.10-25 Requirements for vessels in river service.

(a) Except as otherwise provided in this section, vessels in river service shall carry sufficient life floats or buoyant apparatus for not less than 10 percent of all persons on board.

(1) Vessels navigating not more than 1 mile from land are not required to carry life floats or buoyant apparatus.

§ 180.10-30 Substitutions.

(a) Lifeboats and rigid type life rafts of an approved type may be substituted for any portion of the primary lifesaving equipment required. Such boats and rafts shall be equipped and stowed as required by the Officer in Charge, Marine Inspection.

(b) Suitable dinghies, dories, skiffs, etc., may be substituted for any portion of the primary lifesaving equipment required, under such conditions as may be determined by the Officer in Charge, Marine Inspection.

(c) Inflatable life rafts of an approved type may be substituted for any portion of the primary lifesaving equipment required.

(d) Ring life buoys of an approved type may be substituted for a portion of the primary lifesaving equipment required. One ring life buoy shall be required for each person accommodated and no more than 2 ring life buoys may be used in the substitution. These ring life buoys when provided, shall be in addition to the ring life buoy required by this part.

§ 180.10-35 Rescue boat—L.

(a) A suitable rescue boat shall be required except when, in the opinion of the Officer in Charge, Marine Inspection, the vessel is of such design and operating characteristics that the vessel itself provides a fully satisfactory rescue platform. For protected waters, a rescue boat constructed in accordance with Subpart 160.056 of Subchapter Q (Specifications) of this chapter is acceptable in meeting the intent of this paragraph. For exposed waters, a more seaworthy rescue boat may be required but in no case shall more than one approved lifeboat suitable for rescue work be required.

[CGFR 68-65, 33 FR 19992, Dec. 28, 1968]

Subpart 180.15—Equipment for Life Floats and Buoyant Apparatus

§ 180.15-1 Equipment required.

(a) Each life float shall be fitted with a life line and shall be equipped with two paddles, a water light and a painter.

(b) Each buoyant apparatus shall be fitted with a life line and shall be equipped with a water light and painter.

§ 180.15-5 Description of equipment for life floats and buoyant apparatus.

(a) *Life line.* The life line shall be properly secured around the sides and ends of the life float or buoyant apparatus, festooned in bights not longer than 3 feet, with a seine float in each bight, which float may be omitted if the line is of an inherently buoyant material and absorbs little or no water. The life line shall be of a size and strength not less than ⅜-inch diameter manila.

(b) *Paddles.* Paddles shall be not less than 4 feet long.

(c) *Painter.* The painter for life floats and buoyant apparatus shall be of manila rope not less than 2 inches in circumference or equivalent. It shall be not less than 4 fathoms in length.

(d) *Water light.* (1) the water light must be—

(i) of an approved automatic electric type, constructed in accordance with Subpart 161.010 of this chapter, except as allowed under paragraph (d)(2) of this section; and

(ii) attached to the life float or buoyant apparatus by a 12-thread manila or equivalent synthetic lanyard, at least 5.5 meters (18 feet) in length.

(2) A water light constructed in accordance with former Subpart 160.012 or 161.001 of this chapter that was in-

stalled before January 1, 1972 may be retained in an existing installation as long as it is maintained in good condition.

(46 U.S.C. 369, 375, 390b, 416, and 481; 49 U.S.C. 1655; 49 CFR 1.46)

[CGFR 60-54, 25 FR 9329, Sept. 29, 1960, as amended by CGD 79-165a, 45 FR 64188, Sept. 29, 1980]

§ 180.15-10 Stowage of equipment.

(a) Paddles shall be lashed on the sides of the life floats to which they belong.

(46 U.S.C. 369, 375, 390b, 416, and 481; 49 U.S.C. 1655; 49 CFR 1.46)

[CGFR 60-54, 25 FR 9329, Sept. 29, 1960, as amended by CGD 79-165a, 45 FR 64188, Sept. 29, 1980]

Subpart 180.20—Stowage and Marking of Lifesaving Appliances

§ 180.20-1 Stowage of lifesaving appliances.

(a) Life floats and buoyant apparatus shall be stowed in such a manner as to be readily launched. Life floats exceeding 400 pounds in weight shall be stowed in such a manner as not to require lifting before launching.

(b) Life floats and buoyant apparatus shall not be secured to the vessel except by lashings which can be easily slipped. They may be stowed in tiers one above the other to a height of not more than 4 feet, provided such stowage does not interfere with the navigation of the vessel. When stowed in tiers the separate units shall be kept apart sufficiently to prevent sticking together by means of suitable distance pieces. Means shall be provided to prevent shifting.

(c) (1) Hydraulic releases approved under Subpart 160.062 of Subchapter Q (specifications) of this chapter, and spring-tensioned grips may be permitted in the installation of any liferaft, inflatable liferaft, lifeboat, or buoyant apparatus. On and after July 1, 1969, only hydraulic releases approved under Subpart 160.062 of this chapter may be used.

(2) Existing hydraulic releases may be returned to their manufacturers or to repair facilities designated by their manufacturers for the purpose of determining compliance with Subpart 160.062 of this chapter. If such a release passes the periodic servicing and testing requirements in § 160.062-4(f) of this chapter and the reconditioning work (if any) is done to the satisfaction of the Officer in Charge, Marine Inspection, the complete body marking and inspection tagging required by § 160.062-5 of this chapter shall be placed on such a release indicating it is an approved item.

[CGFR 60-54, 25 FR 9329, Sept. 29, 1960, as amended by CGFR 68-32, 33 FR 5726, Apr. 12, 1968]

§ 180.20-5 Marking.

(a) All life floats and buoyant apparatus shall be conspicuously marked with the vessel's name. In addition the number of persons allowed on each life float or buoyant apparatus shall be conspicuously marked or painted thereon in letters and numbers at least 1½ inches high. (This requirement is also in § 185.30-5 of this subchapter.)

(b) Any lifeboat, life raft, or other suitable boat accepted as primary lifesaving equipment shall be marked with its allowed capacity in persons, and with the name of the vessel in letters and figures at least 2 inches high, except that inflatable life rafts shall be marked by the manufacturer or service facility as required by Subpart 160.051 of Subchapter Q (Specifications) of this chapter and no additional markings are required. (This requirement is also in § 185.30-5 of this subchapter.)

Subpart 180.25—Life Preservers

§ 180.25-1 Type required.

(a) All life preservers shall be of an approved type.

(b) All kapok and fibrous glass life preservers which do not have plastic-covered pad inserts, as required by Subparts 160.002 and 160.005 of Subchapter Q (Specifications) of this chapter, shall be removed from service.

(c) Cork and balsa wood life preservers, constructed in accordance with the applicable provisions of Subpart 160.003 or 160.004 and manufactured as approved life preservers prior to July 1, 1965, may be accepted as new or replacement equipment required by this subchapter if such life preservers are servicable and in good condition to the satisfaction of the Officer in Charge, Marine Inspection: *Provided, however,* That such life preservers bearing basic Approval No. 160.003 or 160.004 shall not be considered as approved equipment meeting the requirements for those passenger ships on an international voyage, constructed or contracted for on or after May 26, 1965.

[CGFR 65-9, 30 FR 11495, Sept. 8, 1965]

§ 180.25-5 Number required.

(a) All vessels shall be provided with an approved adult type life preserver for each person carried. In addition, unless the service is such that children are never carried, there shall be provided a number of approved life preservers suitable for children equal to at least 10 percent of the total number of persons carried.

(b) In addition to the life preservers required by paragraph (a) of this section, all vessels on an international voyage and carrying more than 12 passengers shall be provided with approved type life preservers for 5 percent of the persons carried.

[CGFR 60-54, 25 FR 9329, Sept. 29, 1960, as amended by CGFR 68-32, 33 FR 5727, Apr. 12, 1968]

§ 180.25-10 Distribution and stowage.

(a) Life preservers shall be distributed through the upper part of the vessel in protected places convenient to the persons on board.

(b) If practicable, life preserver containers shall be so designed as to allow the life preservers to float free.

(c) Life preservers for children, when provided, shall be stowed separately.

§ 180.25-15 Marking.

(a) All life preservers shall be marked with the vessel's name. (This requirement is also in § 185.30-5(c) of this subchapter.)

(b) Where life preservers are stowed so that they are not readily visible to passengers, the containers in which they are stowed shall be marked "life preservers" and with the number contained therein, in at least 1-inch letters and figures. This legend shall indicate the separate stowage of children's life preservers. (This requirement is also in § 185.30-10(a) of this subchapter.

§ 180.25-20 Personal flotation device lights.

(a) Each life preserver carried on a vessel engaged in ocean, coastwise, or Great Lakes service after June 30, 1980, must have a personal flotation device light that is approved under Subpart 161.012 of this chapter.

(b) Each light required by this section must be securely attached to the front shoulder area of a life preserver.

(c) Vessels with Certificates of Inspection endorsed only for routes that do not extend more than 20 miles from a harbor of safe refuge are not required to comply with this section.

(46 U.S.C. 375, 390b, 391a, 416, 481, 526p, 1454, and 1488; 49 U.S.C. 1655(b); 50 U.S.C. 198; and 49 CFR 1.46)

[CGD 76-028, 44 FR 38788, July 2, 1979]

§ 180.25-25 Retroreflective material.

(a) Each life preserver carried on a vessel after June 30, 1980, must have at least 200 sq. cm (31 sq. in.) of retroreflective material attached on its front side, at least 200 sq. cm on its back side, and at least 200 sq. cm of material on each of its reversible sides.

(b) Retroreflective material required by this section must be Type I material that is approved under Subpart 164.018 of this chapter.

(c) The retroreflective material attached on each side of a life preserver must be divided equally between the upper quadrants of the side, and the material in each quadrant must be attached as closely as possible to the shoulder area of the life preserver.

(46 U.S.C. 375, 390b, 391a, 416, 481, 526p, 1454, and 1488; 49 U.S.C. 1655(b); 50 U.S.C. 198; and 49 CFR 1.46)

[CGD 76-028, 44 FR 38788, July 2, 1979]

Subpart 180.30—Ring Life Buoys and Water Lights

§ 180.30-1 General.

(a) Each righ life buoy must be an approved type.

(b) Each water light must be of an approved automatic electric type, constructed in accordance with Subpart 161.010 of this chapter, except as allowed under paragraph (c) of this section.

(c) Except as prohibited in paragraph (d) of this section, a water light constructed in accordance with former Subpart 160.012 or 161.001 of this chapter that was installed before January 1, 1972, may be retained in an existing installation as long as it is maintained in good condition.

(d) No vessel attending offshore petroleum operations may carry a water light that produces an open flame.

(46 U.S.C. 369, 375, 390b, 416, and 481; 49 U.S.C. 1655; 49 CFR 1.46)

[CGD 79-165a, 45 FR 64188, Sept. 29, 1980]

§ 180.30-5 Number and size required.

(a) *S.* All vessels shall be fitted with one ring life buoy of not less than 24 inches in diameter, except that vessels less than 26 feet in length may use one ring life buoy of not less than 20 inches in diameter.

(b) *L.* All vessels shall be fitted with three ring life buoys of not less than 24 inches in diameter.

(c) *S and L.* Vessels not limited to daytime operation shall be provided with an approved water light.

(d) *S and L.* Ring life buoys used on a vessel on an international voyage shall be orange in color.

(Secs. 6, 17, 54 Stat. 164, as amended, 166, as amended; 46 U.S.C. 526e, 526p; E.O. 11239; 3 CFR 1965 Supp.)

[CGFR 63-40, 28 FR 9739, Sept. 6, 1963, as amended by CGFR 65-9, 30 FR 11495, Sept. 8, 1965]

§ 180.30-10 Location, distribution, and securing.

(a) *S.* The ring life buoy shall be so placed as to be readily accessible. It shall be capable of being cast loose, shall not be permanently secured in any way, and shall have attached to it a line at least 60 feet in length.

(b) *L.* The ring life buoys shall be so placed as to be readily accessible. They shall be capable of being cast loose, shall not be permanently secured in any way, and one of the ring life buoys shall have attached to it a line at least 60 feet in length.

(c) *S and L.* The water light, which is to be attached for nighttime operation, shall be stowed close to or attached to that ring life buoy which is located nearest the pilothouse.

(Sec. 6, 17, 54 Stat. 164, as amended, 166, as amended; 46 U.S.C. 526e, 526p)

[CGFR 63-40, 28 FR 9739, Sept. 6, 1963]

Subpart 180.35—Pyrotechnic Distress Signals

§ 180.35-1 General.

(a) All pyrotechnic distress signals shall be of an approved type.

(R.S. 4491, as amended; 46 U.S.C. 489)

(b) Service use of distress signals shall be limited to a period of 3 years from date of manufacture, and replacement shall be made no later than the first inspection for certification or reinspection after the date of expiration.

§ 180.35-5 Number required.

(a) Except as otherwise provided in this section, all vessels shall carry pyrotechnic distress signals as follows:

(1) 6 hand red flare distress signals, and 6 hand orange smoke distress signals; or,

(2) 12 hand combination flare and smoke distress signals.

(b) Pyrotechnic distress signals are not required on vessels operating on short runs. A vessel is considered to be on a short run when its operating time away from a dock is limited to approximately 30 minutes.

§ 180.35-10 Stowage.

(a) All pyrotechnic distress signals shall be carried within the pilothouse or in other location considered suitable by the Officer in Charge, Marine Inspection.

(b) All pyrotechnic distress signals shall be stowed in a portable watertight container.

Subpart 180.40—Emergency Position Indicating Radiobeacon (EPIRB)

§ 180.40-1 Emergency position indicating radiobeacon EPIRB.

(a) Each vessel in ocean and coastwise service must have an approved Class A emergency position indicating radiobeacon (EPIRB) that is—

(1) Operative;

(2) Stowed where it is readily accessible for testing and use; and

(3) Stowed in a manner so that it will float free if the vessel sinks.

(b) Compliance with this section is not required for a coastwise vessel—

(1) That carries a VHF radiotelephone that complies with the FCC requirements; and

(2) Whose Certificate of Inspection is endorsed for a route which does not extend more than 20 miles from a harbor of safe refuge.

(49 CFR 1.4(b)(1)(ii) and 1.46(b))

[CGD 73-24R, 39 FR 10140, Mar. 18, 1974]

PART 181—FIRE PROTECTION EQUIPMENT

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Subpart 181.35—Fire Axe

181.35-1 Required number and location—L.

AUTHORITY: R.S. 4405, as amended, 4462, as amended, sec. 3, 70 Stat. 152, sec. 6(b)(1), 80 Stat. 938; 46 U.S.C. 375, 416, 390b, 49 U.S.C. 1655(b); 49 CFR 1.4(a)(2), unless otherwise noted. Interpret or apply R.S. 4417, as amended, 4418, as amended, 4421, as amended, 4426, as amended, 4453, as amended, 4488, as amended; 46 U.S.C. 391, 392, 404, 435, 481.

SOURCE: CGFR 60-54, 25 FR 9330, Sept. 29, 1960, unless otherwise noted.

Subpart 181.01—Application and Intent

§ 181.01-1 Application.

(a) The provisions of this part shall apply to all vessels except as specifically noted in this part.

(b) Installations of power fire pumps, fire main systems and fixed fire extinguishing systems on vessels contracted for before June 1, 1958, shall meet the requirements of this part insofar as deemed reasonable and practicable by the Officer in Charge, Marine Inspection.

§ 181.01-5 Intent.

(a) The intent of this part is to insure that each vessel is provided with safe, readily available and sufficient firefighting equipment of the type necessary to extinguish any fires which are likely to be encountered in normal operation. Due consideration will be given to hazards caused by the vessel's type of fuel, construction material, equipment, cargo, etc.

[CGFR 66-33, 31 FR 15298, Dec. 6, 1966]

Subpart 181.05—Approved Fire Protection Equipment

§ 181.05-1 General.

(a) Where equipment in this part is required to be of an approved type, such equipment requires the specific approval of the Commandant.

(b) Notifications regarding approvals are published in the FEDERAL REGISTER, and in addition are contained in Coast Guard publication CG-190, "Equipment Lists".

(R.S. 4491, as amended, secs. 8, 17, 54 Stat. 165, as amended, 166, as amended, 46 U.S.C. 489, 526g, 526p)

§ 181.05-5 Equipment installed but not required.

(a) Except as further modified in this section, where fire extinguishing systems or equipment are not required, but are installed, the system or equipment and its installation shall meet the requirements of this part. However, the Commandant may, after suitable investigations and tests, accept fire fighting equipment, which is of a type not contemplated by the regulations in this part, if the safety of the vessel is materially improved thereby.

Subpart 181.10—Fire Pumps

§ 181.10-1 Power fire pump.

(a) *S and L.* A power-driven fire pump shall be installed on each mechanically propelled "S" vessel which is a ferry vessel or which is permitted to carry more than 49 passengers, and on each mechanically propelled "L" vessel.

(b) *S.* The power fire pump shall be selfpriming and of such size as to discharge an effective stream from a hose connected to the highest outlet.

(c) *L.* The minimum capacity of the power fire pump shall be 50 gallons per minute at a pressure of not less than 60 pounds per square inch at the pump outlet. The pump outlet shall be fitted with a pressure gage.

(d) *S.* The power fire pump may be driven off a propulsion engine or other source of power and shall be connected to the fire main. This pump may also be connected to the bilge system so that it can serve as either a fire pump or a bilge pump as described in Subpart 182.25.

(e) *L.* The power fire pump may be driven off one of the propulsion engines in a twin engine installation. In a single engine propulsion installation, the pump shall be driven by a source of power independent of the propulsion engine. The pump may also be connected to the bilge system so that it can serve as either a fire pump or a bilge pump as described in Subpart 182.25 of this subchapter.

[CGFR 63-40, 28 FR 9740, Sept. 6, 1963]

§ 181.10-5 Hand fire pumps.

(a) All vessels shall be provided with a hand operated portable fire pump having a capacity of at least 5 gallons per minute. This fire pump shall be equipped with suction and discharge hose suitable for use in fire fighting.

(b) The hand portable fire pump may also serve as a bilge pump.

Subpart 181.15—Fire Main System

§ 181.15-1 Where required.

(a) All vessels required to be provided with a power-driven fire pump shall also be provided with a fire main system including fire main, hydrants, hose and nozzles.

§ 181.15-5 Fire main and hydrants.

(a) *S and L.* Fire hydrants, when required, shall be of sufficient number and so located that any part of the vessel may be reached with an effective stream of water from a single length of hose.

(b) *L.* There shall be a minimum of two (2) fire hydrants on all mechanically propelled "L" vessels.

(c) *S and L.* All piping, valves, and fittings shall be in accordance with good marine practice and suitable for the purpose intended.

[CGFR 63-40, 28 FR 9740, Sept. 6, 1963]

§ 181.15-10 Fire hose.

(a) *S and L.* One length of fire hose shall be provided for each fire hydrant required.

(b) *S.* Fire hose may be commercial fire hose or equivalent of not over 1½-

inch diameter or garden hose of not less than ⅝-inch nominal inside diameter. Hose shall be in one piece not less than 25 feet and not more than 50 feet in length.

(c) *L.* Fire hose shall be 1½ inches in diameter and 50 feet in length.

(d) *S and L.* If 1½ inch diameter fire hose is used after January 1, 1980, each length of hose must:

(1) Be lined commercial fire hose that conforms to Underwriters' Laboratories, Inc., Standard 19 or Federal Specification ZZ-H-451E. A hose that bears the Label of Underwriters' Laboratories, Inc., as lined fire hose is accepted as conforming to the requirement; and

(2) Have a nozzle that has a ½ inch solid stream orifice or a combination nozzle approved by the Commandant in accordance with § 162.027-6 of this Chapter. The nozzle must be bronze or another material that has strength and corrosion resistance properties equal to those of bronze.

(e) *S.* If garden hose is used, it shall be of a good commercial grade constructed of an inner rubber tube, plies of braided cotton reinforcement and an outer rubber cover or of equivalent material, and shall be fitted with a commercial garden hose nozzle of good grade bronze or equivalent metal.

(f) *S and L.* All fittings on fire hose shall be of brass, copper, or other suitable corrosion-resistant metal.

(g) *S and L.* A length of fire hose shall be attached to each fire hydrant at all times.

[CGFR 63-40, 28 FR 9740, Sept. 6, 1963, as amended by CGD 74-60, 41 FR 43152, Sept. 30, 1976]

Subpart 181.20—Fixed Fire Extinguishing System

§ 181.20-1 Where required.

(a) Fixed carbon dioxide fire extinguishing systems shall be installed to protect the following spaces:

(1) The machinery and fuel tank spaces of all vessels using gasoline or other fuel having a flash point of 110° F. or lower, except that where machinery and fuel tank spaces are so open to the atmosphere as to make the use of a fixed system ineffective, no such system will be required.

(2) The paint and oil rooms and similar hazardous spaces on all vessels having such spaces.

(3) Cargo spaces which are inaccessible during a voyage and used for combustible cargo on all vessels having such spaces.

§ 181.20-5 Type system required.

(a) Except as otherwise provided in this section, all fixed fire extinguishing systems shall be of an approved carbon dioxide type and installed to the satisfaction of the Officer in Charge, Marine Inspection.

(b) On vessels where the amount of carbon dioxide gas required in a fixed system can be supplied by one portable extinguisher or by a semi-portable extinguisher, such extinguishers may be used subject to the following:

(1) Cylinders shall be installed in a fixed position outside the space protected.

(2) The applicator shall be installed in a fixed position so as to discharge into the space protected.

(3) Controls shall be installed in an accessible location outside the space protected.

§ 181.20-10 Amount of CO_2 gas required.

(a) The number of pounds of carbon dioxide required for each space protected shall be determined as follows:

(1) For cargo spaces, the number of pounds required shall be equal to the gross volume of the space in cubic feet divided by a factor of 30.

(2) For machinery and fuel tank spaces, paint lockers, oil rooms and similar hazardous spaces, the number of pounds required for each space shall be equal to the gross volume of the space divided by the appropriate factor noted in Table 181.20-10(a)(2).

TABLE 181.20-10(a)(2)

Gross volume of compartment, cubic feet		Factor
Over—	Not over—	
	500	15
500	1,600	16
1,600	4,500	18
4,500		20

(b) A separate supply of carbon dioxide need not be provided for each space protected. The total available supply shall be at least sufficient for the space requiring the greatest amount.

§ 181.20-15 Controls.

(a) All controls and values for the operation of the system shall be outside the spaces protected and shall not be located in such space as might be cut off or made inaccessible in the event of fire in any of the spaces protected.

(b) Each branch line shall be fitted with an approved shutoff valve. Such shutoff valve shall be kept closed at all times except to operate the particular system.

(c) The arrangements shall be such that the entire charge to any space can be introduced into the space by the operation of one valve selecting the space, and one control for releasing at least the required amount of carbon dioxide. The controls shall be of an approved type and shall be located adjacent to the shutoff valve controls.

(d) Complete but simple instructions for the operation of the systems must be located in a conspicuous place at or near all pull boxes, stop valve controls and in the CO_2 cylinder storage room. On systems in which the CO_2 cylinders are not within the protected space, these instructions must also include a schematic diagram of the system and instructions detailing alternate methods of discharging the system should the manual release or stop valve controls fail to operate. Each control valve to branch lines must be marked to indicate the related space served.

[CGFR 60-54, 25 FR 9330, Sept. 29, 1960, as amended by CGD 74-100R, 40 FR 6209, Feb. 10, 1975]

§ 181.20-20 Piping.

(a) Branch lines to the various cargo spaces shall be not less than ½ inch standard pipe size.

(b) The size of branch lines to machinery and fuel tank spaces, paint lockers, oil rooms and similar hazardous spaces shall be as noted in Table 181.20-20(b).

TABLE 181.20-20(b)

Maximum quantity of carbon dioxide required, pounds	Minimum pipe size inches
100	¼ (Schedule 40).
225	¾ (Schedule 40).
300	1 (Schedule 80).
600	1¼ (Schedule 80).

(c) All piping, valves, and fittings of ferrous materials shall be protected inside and outside against corrosion.

(d) All dead-end lines shall extend at least 2 inches beyond the last orifice and shall be closed with cap or plug.

(e) All piping, valves, and fittings shall be securely supported, and where necessary, protected against injury.

(f) Drains and dirt traps shall be fitted where necessary to prevent the accumulation of dirt or moisture. Drains and dirt traps shall be located in accessible locations.

[CGFR 60-54, 25 FR 9330, Sept. 29, 1960, as amended by CGFR 62-17, 27 FR 9048, Sept. 11, 1962]

§ 181.20-25 Discharge outlets.

(a) Discharge outlets shall be of an approved type.

(b) The total area of all discharge outlets shall not exceed 85 percent nor be less than 35 percent of the nominal cylinder outlet area or the area of the supply pipe, whichever is smaller. The nominal cylinder outlet area in square inches shall be determined by multiplying the factor 0.0022 by the number of pounds of carbon dioxide required except that in no case shall this outlet area be less than 0.110 square inches.

§ 181.20-30 Cylinders.

(a) Cylinders shall be securely fastened and supported, and where necessary protected against injury.

(b) Cylinders shall be mounted in an upright position or inclined not more than 30° from the vertical. However, cylinders which are fitted with flexible or bent siphon tubes may be inclined not more than 80° from the vertical.

(c) All cylinders used for storing carbon dioxide shall be fabricated, tested, and marked in accordance with the regulations of tne Interstate Commerce Commission (see § 176.25-25(c) of this subchapter).

(d) Cylinders shall be so mounted as to be readily accessible and capable of easy removal for recharging and inspection, including weighing.

(e) Where subject to moisture, cylinders shall be so installed as to provide a space of at least 2 inches between the flooring and the bottom of the cylinders.

§ 181.20-35 Closure of openings.

(a) Provision shall be made by means of plugs, covers, etc., to prevent the admission of air into the space protected.

Subpart 181.25—Manual Sprinkling System

§ 181.25-1 Where required.

(a) All vessels having a deck above a vehicular space shall be fitted with a manual sprinkling system in the vehicle space.

§ 181.25-5 Installation.

(a) Manual sprinkling systems required shall be subject to such requirements as determined by the Officer in Charge, Marine Inspection. These requirements are contained in applicable regulations in Part 76 of Subchapter H (Passenger Vessels) of this chapter.

Subpart 181.30—Portable Fire Extinguishers

§ 181.30-1 Required number, type and location.

(a) The minimum number of portable fire extinguishers required on each vessel shall be as determined by the Officer in Charge, Marine Inspection, in accordance with Table 181.30-1(a) and other provisions of this subpart.

(b) The Officer in Charge, Marine Inspection, may permit the use of any approved fire extinguishers, including semiportable extinguishers, in lieu of those required by this section when in his opinion such extinguishers will provide equivalent fire protection.

(c) Vaporizing liquid type fire extinguishers containing carbon tetrachloride or chlorobromomethane or other toxic vaporizing liquids are not approved and are not permitted on any vessel.

[CGFR 60-54, 25 FR 9330, Sept. 29, 1960, as amended by CGFR 66-33, 31 FR 15299, Dec. 6, 1966; CGFR 68-65, 33 FR 19992, Dec. 28, 1968]

TABLE 181.30-1(a)

Space protected	Total number extinguishers required	Type extinguishers permitted		
		Medium	Minimum size	Coast Guard classification
Wheelhouse or steering station	1	Foam	1¼ gallons	B-I.
		Carbon dioxide	4 pounds	
		Dry chemical	2 pounds	
Propulsion machinery space (gasoline or other fuel having a flashpoint of 110° F. or lower) with fixed CO_2 system.	1	Foam	1¼ gallons	B-I.
		Carbon dioxide	4 pounds	
		Dry chemical	2 pounds	
Propulsion machinery space (gasoline or other fuel having a flashpoint of 110° F. or lower) without fixed CO_2 system.	2	Foam	2½ gallons	B-II.
		Carbon dioxide	15 pounds	
		Dry chemical	10 pounds	
Propulsion machinery space (diesel oil or other fuel having a flashpoint over 110° F.).	2 (none required if fixed CO_2 system is installed).	Foam	2½ gallons	B-II.
		Carbon dioxide	15 pounds	
		Dry chemical	10 pounds	
Vehicular spaces	1 for each 5 vehicles or fraction thereof.	Foam	2½ gallons	B-II.
		Carbon dioxide	15 pounds	
		Dry chemical	10 pounds	
Accommodations and galley	1	Foam	2½ gallons	B-II.
		Carbon dioxide	15 pounds	
		Dry chemical	10 pounds	

§ 181.30-5 Approved extinguishers.

(a) All portable fire extinguishers installed on vessels shall be of an approved type.

(R.S. 4491, as amended, secs. 8, 17, 54 Stat. 165, as amended, 166, as amended; 46 U.S.C. 489, 526g, 526p)

[CGFR 60-54, 25 FR 9330, Sept. 29, 1960, as amended by CGFR 68-32, 33 FR 5727, Apr. 12, 1968]

§ 181.30-10 Installation and location.

(a) Portable fire extinguishers shall be located so as to be convenient to the space protected.

(b) Portable fire extinguishers shall be installed and located to the satisfaction of the Officer in Charge, Marine Inspection.

(c) Portable fire extinguishers, which are required on their nameplates to be protected from freezing, shall not be located where freezing temperatures may be expected.

[CGFR 60-54, 25 FR 9330, Sept. 29, 1960, as amended by CGFR 62-17, 27 FR 9048, Sept. 11, 1962]

§ 181.30-12 Semiportable fire extinguishers.

(a) The frame or support of each semiportable fire extinguisher permitted under § 181.30-10(b) in lieu of a portable fire extinguisher required by Table 181.3001(a) must be welded or otherwise permanently attached to a bulkhead or deck.

(b) If an approved semiportable fire extinguisher has wheels and is not required by Table 181.30-01(a), it must be securely stowed when not in use to prevent it from rolling out of control under heavy sea conditions.

(46 U.S.C. 375, 390b, 416, 481, and 526p, 49 U.S.C.1655; 49 CFR 1.46)

[CGD 77-039, 44 FR 34133, June 14, 1979]

Subpart 181.35—Fire Axe

§ 181.35-1 Required number and location—L.

(a) Each "L" vessel will be equipped with one (1) fire axe located in or adjacent to the pilothouse.

[CGFR 63-40, 28 FR 9740, Sept. 6, 1963]

PART 182—MACHINERY INSTALLATION

Subpart 182.01—Application and Intent

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182.01-5 Intent.

Subpart 182.05—Propulsion Machinery

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Subpart 182.10—Auxiliary Machinery

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Subpart 182.15—Machinery Using Gasoline as Fuel

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182.40-10 Non-vital systems.

AUTHORITY: R.S. 4405, as amended, R.S. 4418, as amended, R.S. 4462, as amended, R.S. 4488, as amended, sec. 3, 70 Stat. 152, sec. 17, 54 Stat. 166, sec. 6(b)(1), 80 Stat. 937; 46 U.S.C. 375, 392, 416, 481, 390b, 526p, 49 U.S.C. 1655(b)(1); 49 CFR 1.46(b).

SOURCE: CGFR 60-54, 25 FR 9332, Sept. 29, 1960, unless otherwise noted.

Subpart 182.01—Application and Intent

§ 182.01-1 Application.

(a) The provisions of this part shall apply to the machinery installation on all vessels contracted for on or after June 1, 1958, except as otherwise provided for in this part. Machinery installations on all vessels contracted for prior to this date shall meet the requirements of this part insofar as is deemed reasonable and practicable by the Officer in Charge, Marine Inspection.

[CGFR 61-13, 26 FR 3927, May 5, 1961]

§ 182.01-5 Intent.

(a) The intent of this part is to insure that the main propulsion machinery installed on each vessel is suitable for the vessel and its operation and that the auxiliary machinery is suitable for the purpose intended. It is further intended that all machinery be installed and maintained in such a manner as to afford adequate protection against fire, explosion, machinery failure and personnel injury.

Subpart 182.05—Propulsion Machinery

§ 182.05-1 General.

(a) Propulsion machinery shall be suitable in type and design for propulsion requirements of the hull in which it is installed and capable of operating at constant marine load under such requirements without exceeding its designed limitations.

§ 182.05-5 Installations.

(a) Except as otherwise provided in this section main propulsion machinery installations shall comply with the provisions of this part.

(b) Propulsion machinery of an unusual type for small passenger vessels shall be given separate consideration and shall be subject to such requirements as determined by the Officer in Charge, Marine Inspection. The requirements for machinery and boilers for steam and electrically propelled vessels are contained in applicable regulations in Subchapter F (Marine Engineering) and Subchapter J (Electrical Engineering) of this chapter. These unusual types of propulsion machinery include:

(1) Machinery installations using steam.

(2) Electrical machinery installations.

(3) Gas turbine machinery installations.

(4) Outboard motors.

(5) Air screws.

(6) Hydraulic jets.

Subpart 182.10—Auxiliary Machinery

§ 182.10-1 General.

(a) Auxiliary machinery shall be suitable in type and design for the purpose intended.

§ 182.10-5 Installations.

(a) Auxiliary machinery of the internal combustion piston type shall comply with the provisions of this part.

(b) Auxiliary machinery installation of the steam or gas turbine type will be given separate consideration and shall be subject to such requirements as determined by the Officer in Charge, Marine Inspection. These requirements are contained in applicable regulations in Subchapter F (Marine Engineering) of this chapter.

(c) Auxiliary boilers and heating boilers and their associated piping and fittings will be given separate consideration and will be subject to such requirements as determined by the Officer in Charge, Marine Inspection. These requirements shall be as specified in applicable regulations in Subchapter F (Marine Engineering) of this chapter except that heating boilers shall be tested or examined every three years.

(d) Except as otherwise provided in this paragraph all unfired pressure vessels shall be Coast Guard approved and installed to the satisfaction of the Officer in Charge, Marine Inspection. The requirements for design, construction and original testing of such approved unfired pressure vessels are in applicable regulations in Subchapter F (Marine Engineering) of this chapter. Information concerning the applicable regulations may be obtained from the Officer in Charge, Marine Inspection.

[CGFR 60-54, 25 FR 9332, Sept. 29, 1960, as amended by CGFR 68-82, 33 FR 18909, Dec. 18, 1968]

Subpart 182.15—Machinery Using Gasoline as Fuel

§ 182.15-1 Application.

(a) This subpart shall apply to all propulsion and auxiliary machinery installations of the internal combustion piston type which use gasoline or other fuel having a flashpoint of 110° F. (Pensky-Martens Closed Cup Method, ASTM-D93) or lower.

[CGFR 68-82, 33 FR 18909, Dec. 18, 1968]

§ 182.15-5 General requirements.

(a) Starting motors, generators and any spark producing device shall be mounted as high above the bilges as practicable.

(b) Gages to indicate cooling water discharge temperature and lubricating oil pressure shall be provided for all propulsion engines and located so as to be in view of the operator. When engine is freshwater cooled and exhaust pipe is cooled by a separate water cooling system, a suitable warning, visible or audible at the operating station, shall be provided to indicate any failure of water flow in the exhaust system.

(c) The use of liquefied inflammable gases, such as propane, methane, butane, etc., as fuel is prohibited on all vessels.

§ 182.15-7 Carburetors.

(a) All carburetors except the downdraft type shall be equipped with integral or externally fitted drip collectors of adequate capacity and of such arrangement as to permit ready removal of fuel leakage. Externally fitted drip collectors shall be covered with flame screens.

NOTE: It is recommended that drip collectors be drained by a device for automatic return of all drip to engine air intakes.

(b) All gasoline engines shall be equipped with an acceptable means of backfire flame control. Installations of backfire flame arresters or engine air and fuel induction systems bearing basic Approval No. 162.015 may be continued in use as long as they are serviceable and in good condition. New installations or replacements shall meet the applicable requirements of this section.

(c) The following are acceptable means of backfire flame control for gasoline engines:

(1) A backfire flame arrester constructed in accordance with the specification regulations contained in Subpart 162.041 of Subchapter Q (Specifications) of this chapter and it shall be specifically approved by the Commandant. The flame arrester shall be suitably secured to the air intake with flametight connection.

(2) An engine air and fuel induction system which provides adequate protection from propagation of backfire flame to the atmosphere equivalent to that provided by an approved backfire flame arrester. A gasoline engine utilizing an air and fuel induction system, and operated without an approved backfire flame arrester, shall have such installation tested and labelled in accordance with the specifications contained in Subpart 162.042 of Sub-

chapter Q (Specifications) of this chapter and such system shall be specifically approved by the Commandant.

(3) Any attachment to the carburetor or location of the engine air induction system by means of which flames caused by engine backfire will be dispersed to the atmosphere outside the vessel in such a manner that the flames will not endanger the vessel, persons on board, or nearby vessels and structures. All attachments shall be of metallic construction with flametight connections and firmly secured to withstand vibration, shock, and engine backfire. Such installations do not require formal approval and labeling, but will be accepted by Coast Guard law enforcement officers on the basis of compliance with this subpart.

(4) Where manufacturers wish to produce vessels having an integrated engine-vessel design, a premarket approval of an engine air induction system is available. Such an installation shall be tested and labelled in accordance with the specifications contained in Subpart 162.043 of Subchapter Q (Specifications) of this chapter and such system shall be specifically approved by the Commandant.

(Secs. 10, 17, 54 Stat. 165, 166; 46 U.S.C. 526i, 526p)

[CGFR 60-54, 25 FR 9332, Sept. 29, 1960, as amended by CGFR 65-18, 30 FR 10243, Aug. 18, 1965]

§ 182.15-10 Gasoline engine cooling.

(a) Except as otherwise provided in this paragraph all engines shall be water cooled.

(1) Auxiliary engines with self-contained fuel systems may be air cooled when they are installed on open decks.

(b) The engine cooling water system shall be in accordance with the following provisions:

(1) The engine head, block and exhaust manifold shall be water jacketed and cooled by water from a pump which operates whenever the engine is operating.

(2) A closed fresh water system may be used to cool the engine. Air cooled radiators shall not be used for propulsion engine cooling systems.

(3) A suitable hull strainer shall be installed in the circulating water intake line.

§ 182.15-15 Gasoline engine exhaust cooling.

(a) Except as otherwise provided in this paragraph, all engine exhaust pipes shall be water cooled.

(1) Dry pipe vertical exhausts are permissible if suitably insulated.

(2) Horizontal dry exhaust pipes are permitted only if: They do not pass through living or berthing spaces, they terminate above the deepest load waterline and are so arranged as to prevent entry of cold water from rough or boarding seas, and they are constructed of corrosion resisting material at the hull penetration.

(3) Exhaust pipes on air cooled engines need not be water cooled but suitable insulation may be required.

(b) The exhaust pipe cooling water system shall be in accordance with the following provisions:

(1) Water for cooling the exhaust pipe shall be obtained from the engine cooling water system or a separate engine driven pump.

(2) Water for cooling the exhaust pipe, other than a vertical exhaust, shall be injected into the exhaust system as near to the engine manifold as practicable. The water shall pass through the entire length of the exhaust pipe.

(3) That part of the exhaust system between the point of cooling water injection and the engine manifold shall be water-jacketed or effectively insulated.

(4) Vertical exhaust piping must be water-jacketed or suitably insulated between the engine manifold and the spark arrester.

(5) When the exhaust cooling system is separate from the engine cooling system, a suitable warning device shall be provided to indicate any failure of water flow in the exhaust cooling system. Such warning shall be visible or audible at the engine operating station.

(6) A suitable hull strainer shall be installed in the circulating water intake line for the exhaust cooling system.

(c) Engine exhaust cooling systems built in accordance with the requirements of American Boat and Yacht Council, Inc., Standard P-1, "Safe Installation of Exhaust Systems for Propulsion and Auxiliary Machinery" will be considered as meeting the requirements of this section. (See § 175.27-5 of this subchapter.)

(14 U.S.C. 2)

[CGFR 68-82, 33 FR 18909, Dec. 18, 1968, as amended by CGFR 72-59R, 37 FR 6191, Mar. 25, 1972]

§ 182.15-20 Gasoline engine exhaust pipe, installation.

(a) Exhaust piping shall be led to the point of escape with a minimum number of bends or elbows. It shall be gastight throughout its length and shall be properly supported by noncombustible hangers or blocks.

(b) The exhaust piping shall be so arranged as to prevent backflow of water from reaching engine exhaust ports under normal conditions.

(c) Where flexibility is necessary a section of flexible metallic hose may be used. Non-metallic hose may be used provided it is especially adapted to resist the action of oil, acid and heat, and has a wall thickness sufficient to prevent collapsing or panting.

(d) Where exhaust piping passes through watertight bulkheads the watertight integrity of the bulkhead shall be maintained. Non-combustible packing shall be used in bulkhead penetration glands. Water cooled exhaust pipes may be welded to steel bulkheads in way of penetrations if suitable arrangements are provided to relieve the stresses resulting from the expansion of the exhaust piping.

(e) Where exhaust piping passes through non-watertight combustible bulkheads or partitions non-combustible packing shall be used in bulkhead penetration glands or a minimum clearance of 2 inches shall be provided between the exhaust pipe and the bulkhead or partition.

(f) Vertical exhaust systems shall be provided with spark arresters. Spark arresters shall be supported by suitable steel hangers and shall be lagged with fire resistant material. A clearance of at least 9 inches shall be maintained between the spark arrester and any woodwork.

(g) Protective gratings shall be provided at such locations where persons or gear might come in contact with the exhaust pipe.

(h) Arrangements shall be made to provide access to the exhaust pipe throughout its length.

(i) All exhaust installations with pressures in excess of 15 pounds per square inch gage or employing runs passing through living or working spaces shall meet the material requirements of Part 56 of Subchapter F (Marine Engineering) of this chapter.

(j) Engine exhaust installations built in accordance with the requirements of American Boat and Yacht Council, Inc., Standard P-1, "Safe Installations of Exhaust Systems for Propulsion and Auxiliary Machinery" will be considered as meeting the requirements of this section. (See § 175.27-5 of this subchapter.)

[CGFR 60-54, 25 FR 9332, Sept. 29, 1960, as amended by CGFR 68-82, 33 FR 18909, Dec. 18, 1968]

§ 182.15-25 Gasoline fuel tanks.

(a) *Materials and construction.* (1) Fuel tanks shall be independent of the hull. The material used and the minimum thickness allowed shall be as indicated in Table 182.15-25(a)(1), except that consideration will be given to other materials which provide equivalent safety as indicated in paragraph (a)(8) of this section. Fuel tanks having a capacity of more than 150 gallons shall be designed to withstand the maximum head to which they may be subjected in service but in no case shall the thickness be less than that specified in Table 182.15-25(a)(1).

(2) Tanks with flanged-up top edges, that may trap and hold moisture, shall not be used.

(3) Openings for fill, vent and fuel pipes, and openings for fuel level gages where used, shall be on topmost surface of tanks. Tanks shall have no openings in bottoms, sides, or ends, except that an opening fitted with threaded plug or cap may be used for tank cleaning purposes.

(4) All tank joints shall be welded or brazed.

(5) Nozzles, flanges, or other fittings for pipe connections shall be welded or brazed to the tank. The tank openings in way of pipe connections shall be properly reinforced where necessary. Where fuel level gages are used the flange to which gage fittings are attached shall be welded or brazed to the tank. No tubular gage glasses or trycocks shall be fitted to the tanks.

(6) All tanks exceeding 30 inches in any horizontal dimension shall be fitted with vertical baffle plates where necessary for strength or for control of excessive surge. In general, baffle plates installed at intervals not exceeding 30 inches will be considered as meeting this requirement.

TABLE 182.15-25(a)(1)

Material	ASTM Specification (latest edition)	Thickness in inches and gage number [1] vs. tank capacities for—		
		1 to 80 gallon tanks	More than 80 and not more than 150 gallon tanks	Over 150 gallon tanks
Nickel-copper	B127, hot rolled sheet or plate	0.037 (USSG 20) [2]	0.050 (USSG 18)	0.107 (USSG 12)
Copper-nickel	B122, alloy No. 5	0.045 (AWG 17)	0.057 (AWG 15)	0.128 (AWG 8)
Copper	B152, type ETP	0.057 (AWG 15)	0.081 (AWG 12)	0.182 (AWG 5)
Copper-silicon	B97, alloys A, B, and C	0.051 (AWG 16)	0.064 (AWG 14)	0.144 (AWG 7)
Steel or iron [3]		0.0747 (MSG 14)	0.1046 (MSG 12)	0.1793 (MSG 7)
Aluminum [4]	B209, Alloy 5086 [5]	0.250 (USSG 3)	0.250 (USSG 3)	0.250 (USSG 3)

[1] The gage numbers used in this table may be found in many standard engineering reference books. The letters "USSG" stand for "U.S. Standard Gage," which was established by the act of March 3, 1892 (15 U.S.C. 206), for sheet and plate iron and steel. The letters "AWG" stand for "American Wire Gage" (or Brown and Sharpe Gage) for conferrous sheet thicknesses The letters "MSG" stand for "Manufacturers' Standard Gage" for sheet steel thicknesses.

[2] Nickel-copper not less than 0.031 inch (USSG 22) may be used for tanks up to 30-gallon capacity.

[3] Fuel tanks constructed of iron or steel, which is less than $^{3}/_{16}$-inch thick, shall be galvanized inside and outside by the hot dip process.

[4] Anodic to most common metals. Avoid dissimilar metal contact with tank body.

[5] And other alloys acceptable to the Commandant.

(7) Baffle plates, where required, shall be of the same material and not less than the minimum thickness required in the tank walls and shall be connected to the tank walls by welding or brazing. Limber holes at the bottom and air holes at the top of all baffles shall be provided.

(8) Materials other than those listed in Table 182.15-25(a)(1) may be used for gasoline fuel tank construction only if the tank as constructed meets the testing requirements of Yacht Safety Bureau STD E-3, paragraph E3-3. (See § 175.27-20 of this subchapter.) Testing may be accomplished by any acceptable laboratory such as the Yacht Safety Bureau, or may be done by the fabricator if witnessed by a marine inspector.

(b) *Location and installation.* (1) Fuel tanks shall be located in, or as close as practicable to engine compartments.

(2) Fuel tanks shall be so installed as to permit examination, testing, or removal for cleaning with minimum disturbance to the hull structure.

(3) Fuel tanks shall be adequately supported and braced to prevent movement. The supports and braces shall be insulated from contact with the tank surfaces with a non-abrasive and non-absorbent material.

(4) All fuel tanks shall be electrically bonded to the common ground.

(5) Cylindrical tanks with longitudinal seams shall be arranged horizontally where practicable so that such seams are located as near the top as possible.

(c) *Tests.* (1) Prior to installation, tanks vented to the atmosphere shall be tested to, and must withstand, a pressure of 5 pounds per square inch or 1½ times the maximum head to which they may be subjected in service, whichever is greater. A standpipe of 11½ feet in height attached to the tank may be filled with water to accomplish the 5 pounds per square inch test. Permanent deformation of the tank will not be cause for rejection unless accompanied by leakage.

(2) After installation of the fuel tank on a vessel the complete installation

shall be tested in the presence of a marine inspector to a head not less than that to which the tank may be subjected in service. Fuel may be used as testing medium.

(3) All tanks not vented to the atmosphere shall be constructed and tested in accordance with § 182.10-5(d).

(14 U.S.C. 2)

[CGFR 60-54, 25 FR 9332, Sept. 29, 1960, as amended by CGFR 66-33, 31 FR 15299, Dec. 6, 1966; CGFR 68-82, 33 FR 18910, Dec. 18, 1968; CGFR 72-59R, 37 FR 6191, Mar. 25, 1972]

§ 182.15-30 Filling and sounding pipes for gasoline fuel tanks.

(a) Fill pipes shall be not less than 1½ inches nominal pipe size.

(b) Filling and sounding pipes shall be so arranged that overflow of liquid or vapor cannot escape to the inside of the vessel. Sounding pipes may be omitted where sounding can be accomplished through the fill pipe or where marine type fuel gages are installed. Where sounding pipes are used, their openings shall be at least as high as the opening of the fill pipe and they shall be kept closed at all times except during sounding.

(c) Fill and sounding pipes shall run as directly as possible, preferably in a straight line, from the deck connection to the top of the tank. Such pipes shall terminate on the weather deck clear of any coamings and shall be fitted with shutoff valves, watertight deck plates or screw caps suitably marked for identification. Fill and sounding pipes shall extend to within one-half of their diameter from the bottom of the tank.

(d) Where a flexible fill pipe section is necessary, suitable flexible tubing or hose having high resistance to salt water, petroleum oils, heat and vibration, may be used. Such hose shall overlap metallic pipe ends at least 1½ times the pipe diameter and shall be secured at each end by two clamps of corrosion resistant metal. The flexible section shall be accessible and as near the upper end of the filling pipe as practicable. When the flexible section is a nonconductor of electricity, the metallic sections of the filling pipe separated thereby shall be joined by a conductor for protection against static spark when filling.

[CGFR 60-54, 25 FR 9332, Sept. 29, 1960 as amended at CGD 76-154, 42 FR 48880, Sept. 26, 1977]

§ 182.15-35 Vent pipes for gasoline fuel tanks.

(a) Each tank shall be fitted with a vent pipe which shall be connected to the tank at its highest point under normal operating conditions.

(b) The net cross-sectional area of the vent pipe shall be not less than that of ¾-inch O.D. tubing (0.035 inch wall thickness—20 gage), except that, where provision is made to fill the tanks under pressure, the net-cross-sectional area of the vent pipe shall be not less than that of the fill pipe.

(c) The discharge ends of vent pipes shall terminate on the hull exterior as high above the waterline as practicable and remote from any hull openings, or, they shall terminate in U-bends as high above the weather deck as practicable and as far from any openings into living quarters or other below deck spaces as practicable. Vent pipes terminating on the hull exterior shall be so installed or equipped as to prevent the accidental contamination of the fuel by water under normal operating conditions.

(d) The discharge ends of vent pipes shall be fitted with removable flame screens or flame arresters. The flame screens shall consist of a single screen of corrosion resistant wire of at least 30×30 mesh. The flame screens or flame arresters shall be of such size and design as to prevent reduction in the net cross-sectional area of the vent pipe and permit cleaning or renewal of the flame screens or arrester elements.

§ 182.15-40 Gasoline fuel supply piping.

(a) *Materials and workmanship.* (1) Fuel lines shall be annealed tubing of copper, nickel-copper, or copper-nickel having a minimum wall thickness of 0.035 inch.

(2) Where flexibility is necessary or desired, a reasonable length of flexible hose may be used provided it is fitted with suitable connection fittings and has high resistance to saltwater, petroleum oils and vibration.

(3) Flexible hose shall be fabricated with an inner tube and a cover of synthetic rubber or other suitable material reinforced with wire braid. The hose cover shall be adjudged self-extinguishing per ASTM D1692, and the hose assembly shall be capable of withstanding free burning gasoline for 2½ minutes (test details available from Coast Guard (MMT)). Details of other fire tests designed to demonstrate this capability shall be submitted to Coast Guard (MMT) for review.

(4) Tubing connections and fittings shall be of nonferrous drawn or forged metal of the flared type except that the flareless fittings of the nonbite type may be used when the tubing system is of nickel-copper or copper-nickel. When making tube connections, the tubing shall be cut square and flared by suitable tools. Tube ends shall be annealed before flaring.

(5) Valves for fuel lines shall be of a suitable nonferrous type. Cocks are prohibited except for the solid bottom type with tapered plugs and union bonnets.

(b) *Installation.* (1) Fuel lines shall be run at the level of the tank top to a point as close to the engine connection as practicable.

(2) Fuel lines shall be accessible, protected from mechanical injury, and effectively secured against excessive movement and vibration by the use of soft nonferrous metal straps with no sharp edges. Where passing through bulkheads, fuel lines shall be protected by close fitting ferrules or stuffing boxes.

(3) Shutoff valves, installed so as to close against the fuel flow, shall be fitted in the fuel supply lines, one at the tank connection and one at the engine end of the fuel line to stop fuel flow when servicing accessories. The shutoff valve at the tank shall be operable from outside the tank compartment preferably from an accessible position on the weather deck.

(4) A loop of copper tubing or a short length of flexible hose shall be installed in the fuel supply line at or near the engines. Such flexible hose shall be provided with suitable connection fittings and shall have a high resistance to salt water, petroleum oils, heat and vibration.

(5) A suitable metal marine type strainer shall be fitted in the fuel supply line in the engine compartment. Strainers shall be of the type opening on top for cleaning screens. A drip pan fitted with flame screen shall be installed under the strainer.

(6) All accessories installed in the fuel line shall be independently supported.

(7) Outlets in fuel lines for drawing fuel below deck for any purpose are prohibited.

[CGFR 60-54, 25 FR 9332, Sept. 29, 1960, as amended by CGFR 68-82, 33 FR 18910, Dec. 18, 1968; CGD 72-206R, 38 FR 17230, June 29, 1973]

§ 182.15-45 Ventilation of compartments containing gasoline machinery or fuel tanks.

(a) Spaces containing gasoline machinery or fuel tanks shall have natural supply and mechanical exhaust ventilation as required by this section, except that, where engines and fuel tanks are not in closed compartments, at least one ventilation duct shall be installed in the fore part of the vessel and one in the after part of the vessel, both ducts having cowls or scoops are required by paragraph (h) of this section.

(b) The requirements for the mechanical exhaust system shall be such as to assure the air changes as noted in table 182.15-45(b) depending upon the size of the space.

TABLE 182.15-45(b)

Size of space, cubic feet		Minutes per air change
Over—	Not over—	
	500	2
500	1,000	3
1,000	1,500	4
1,500		5

(c) Exhaust blower motors shall be outside of the ducts, and if mounted in any compartment required to be ventilated by this section, shall be located as high above the bilge as practicable. Blower blades shall be nonsparking with reference to their housings.

(d) Exhaust blower switches shall be located outside of any space required to be ventilated by this section, and shall be of the type interlocked with the starting switch and the ignition switch so that the blowers are started before the engine starter motor circuit or the engine ignition is energized. A red warning sign at the switch shall state that the blowers shall be operated prior to starting the engines for a sufficient time to insure at least one complete change of air in the compartments.

(e) The area of the ducts shall be such as to limit the air velocity to a maximum of 2,000 feet per minute. Ducts may be of any shape, provided that in no case shall one cross section dimension exceed twice the other.

(f) At least two inlet ducts shall be located at one end of the compartment and they shall extend to the lowest part of the compartment or bilge on each side. Similar exhaust ducts shall be led to the mechanical exhaust system from the lowest part of the compartment or bilge on each side of the compartment at the end opposite from that at which the inlet ducts are fitted. These ducts shall be so installed that ordinary collection of water in the bilge will not trap the ducts.

(g) All ducts shall be of rigid permanent construction of fire proof material and reasonably gastight from end to end. The ducts shall lead as direct as possible and be properly fastened and supported.

(Secs. 11, 17, 54 Stat 165, as amended, 166, as amended; 46 U.S.C. 526j, 526p. Treasury Department Order 120, July 31, 1950, 15 FR 6521)

(h) All supply ducts shall be provided with cowls or scoops having a free area not less than twice the required duct area. When the cowls or scoops are screened, the mouth area shall be increased to compensate for the area of the screen wire. Dampers shall not be fitted in the supply ducts. Cowls or scoops shall be kept open at all times except when the stress of weather is such as to endanger the vessel if the openings are not temporarily closed. Supply and exhaust openings shall not be located where the natural flow of air is unduly obstructed, or adjacent to possible sources of vapor ignition, nor shall they be so located that exhaust air may be taken into the supply vents. Provision shall be made for closing all cowls or scoops when the fixed carbon dioxide system is operated.

[CGFR 60-54, 25 FR 9332, Sept. 29, 1960, as amended by CGFR 68-65, 33 FR 19992, Dec. 28, 1968]

Subpart 182.20—Machinery Using Diesel Fuel

§ 182.20-1 Application.

(a) This subpart shall apply to all propulsion and auxiliary machinery installations of the internal combustion piston type which use Diesel fuel or other fuel having a flashpoint (Pensky-Martens Closed Cup Method—ASTM-D93) of over 110° F.

[CGFR 68-82, 33 FR 18910, Dec. 18, 1968]

§ 182.20-5 General requirements.

(a) Generators, starting motors and other spark producing devices shall be mounted as high above the bilges as practicable.

(b) Gages to indicate engine cooling water discharge temperature and lubricating oil pressure shall be provided for all propulsion engines and located so as to be in view of the operator.

§ 182.20-10 Diesel engine cooling.

(a) Except as otherwise provided in this paragraph all engines shall be water cooled.

(1) Auxiliary engines with self-contained fuel systems may be air cooled when they are installed on open decks.

(2) Air cooled propulsion and auxiliary engines may be installed under deck when adequate compartment ventilation is provided and other necessary safeguards are taken so as not to endanger the vessel. (See § 182.20-45(b) for ventilation requirements.)

(b) The engine cooling water system shall be in accordance with the following provisions:

(1) The engine head, block and exhaust manifold shall be water jacketed and cooled by water from a pump which operates whenever the engine is operating.

(2) A closed fresh water system may be used to cool the engine. Air cooled radiators shall not be used for propulsion engine cooling systems.

(3) A suitable hull strainer shall be installed in the circulating water intake line.

§ 182.20-15 Diesel engine exhaust cooling.

(a) Installation shall be in accordance with § 182.15-15.

[CGFR 68-82, 33 FR 18910, Dec. 18, 1968]

§ 182.20-20 Diesel engine exhaust pipe, installation.

(a) Installation of diesel engine exhaust pipe shall be in accordance with § 182.15-20.

[CGFR 68-82, 33 FR 18910, Dec. 18, 1968]

§ 182.20-22 Integral diesel fuel tanks.

(a) A diesel fuel tank may not be built integral with the hull of a vessel unless the hull is made of—

(1) Steel;

(2) Aluminum; or

(3) Fiberglass reinforced plastic that is—

(i) Not sandwich construction;

(ii) Sandwich construction with core material of closed-cell, polyvinyl chloride foam; or

(iii) Sandwich construction only where the hull is not integral with the tank.

(a-1) Each vessel contracted for before January 16, 1978 that has a fiberglass reinforced plastic hull made of sandwich construction in whole or in part may postpone compliance with paragraph (a) of this section until its next inspection for certification or reinspection, whichever occurs first.

(b) Integral fuel tanks shall be constructed to the satisfaction of the Officer in Charge, Marine Inspection. The standards of a recognized classification society may be considered in determining the structural adequacy of an integral fuel tank.

(c) Integral fuel tanks, when new shall be subjected to and shall withstand a hydrostatic test pressure of 5 pounds per square inch, or to the maximum head to which they may be subjected in service whichever is greater.

(46 U.S.C. 375, 390(b), and 416; 49 U.S.C. 1655(b); and 49 CFR 1.46)

[CGFR 60-54, 25 FR 9332, Sept. 29, 1960, as amended by CGD 75-184, 42 FR 63175, Dec. 15, 1977]

§ 182.20-25 Independent diesel fuel tanks.

(a) *Material and construction.* (1) The materials used and the minimum thickness allowed in the construction of independent fuel tanks shall be as indicated in Table 182.20-25(a)(1), except that consideration will be given to other materials which provide equivalent safety as indicated in paragraph (a)(9) of this section. Fuel tanks having a capacity of more than 150 gallons shall be designed to withstand the maximum head to which they may be subjected in service but in no case should the thickness be less than that specified in Table 182.20-25(a)(1).

TABLE 182.20-25(a)(1)

Material	ASTM specification (latest edition)	Thickness in inches and gage number[1] vs. tank capacities for—		
		1 to 80 gallon tanks	More than 80 and not more than 150 gallon tanks	Over 150 gallon tanks
Nickel-copper	B127, hot rolled sheet or plate	0.037 (USSG 20)[2]	0.050 (USSG 18)	0.107 (USSG 12)
Steel or iron		0.0747 (MSG 14)	0.1046 (MSG 12)	0.1793 (MSG 7)
Aluminum[3]	B209, Alloy 5086[4]	0.250 (USSG 3)	0.250 (USSG 3)	0.250 (USSG 3)

[1] The gage numbers used in this table may be found in many standard engineering reference books. The letters "USSG" stand for "U.S. Standard Gage," which was established by the act of March 3, 1892 (15 U.S.C. 206), for sheet and plate iron and steel. The letters "MSG" stand for "Manufacturers' Standard Gage" for sheet steel thicknesses.

[2] Nickel-copper not less than 0.031 inch (USSG 22) may be used for tanks up to 30-gallon capacity.

[3] Anodic to most common metals. Avoid dissimilar metal contact with tank body.

[4] And other alloys acceptable to the Commandant.

(2) Tanks with flanged-up top edges, that may trap and hold moisture, shall not be used.

(3) Openings for fill and vent pipes and openings for fuel level gages, where used, shall be on the topmost surface of tanks. Tanks shall have no

openings in bottoms, sides or ends except as follows:

(i) The opening for the fuel supply piping is not restricted to the top of the tank.

(ii) An opening fitted with threaded plug or cap may be used on the bottom of the tank for tank cleaning purposes.

(4) All tank joints shall be welded.

(5) Nozzles, flanges or other fittings for pipe connections shall be welded or brazed to the tank. The tank opening in way of pipe connections shall be properly reinforced where necessary. Where liquid level indicating gages are installed, they shall be of heat resistant materials, adequately protected from mechanical damage and provided at the tank connections with devices which will automatically close in the event of rupture of the gage or gage lines.

(6) All tanks exceeding 30 inches in any horizontal dimension shall be fitted with vertical baffle plates where necessary for strength or for control of excessive surge. In general, baffle plates installed at intervals not exceeding 30 inches will be considered as meeting this requirement.

(7) Baffle plates, where required, shall be of the same material and not less than the minimum thickness required in the tank walls and shall be connected to the tank walls by welding or brazing. Limber holes at the bottom and air holes at the top of all baffles shall be provided.

(8) Iron or steel tanks shall not be galvanized on the interior. Galvanizing, paint or other suitable coating shall be used to protect the outside of iron and steel tanks.

(9) Materials other than those specifically listed in Table 182.20-25(a)(1) may be used only if the tank as constructed meets the testing requirements of Yacht Safety Bureau STD E-3, paragraph E3-3. (See § 175.27-20 of this subchapter.) Testing may be accomplished by any acceptable laboratory such as the Yacht Safety Bureau, or may be done by the fabricator if witnessed by a marine inspector.

(b) *Location and installation.* (1) Fuel tanks shall be located in, or as close as practicable, to engine compartments.

(2) Fuel tanks shall be so installed as to permit examination, testing, or removal for cleaning with minimum disturbance to the hull structure.

(3) Fuel tanks shall be adequately supported and braced to prevent movement. The supports and braces shall be insulated from contact with the tank surfaces with a non-abrasive and non-absorbent material.

(4) All fuel tanks shall be electrically bonded to the common ground.

(5) When cylindrical tanks are installed, longitudinal seams shall be located as near the top of the tanks as possible.

(c) *Tests.* (1) Prior to installation, tanks vented to the atmosphere shall be tested to and must withstand a pressure of 5 pounds per square inch or 1½ times the maximum head to which they may be subjected in service, whichever is greater. A standpipe of 11½ feet in height attached to the tank may be filled with water to accomplish the 5 pounds per square inch test. Permanent deformation of the tank will not be cause for rejection unless accompanied by leakage.

(2) After installation of the fuel tank on a vessel, the complete installation shall be tested in the presence of a marine inspector to a head not less than that to which the tank may be subjected in service. Fuel may be used as a testing medium.

(3) All tanks not vented to the atmosphere shall be constructed and tested in accordance with § 182.10-5(d).

(14 U.S.C. 2)

[CGFR 60-54, 25 FR 9332, Sept. 29, 1960, as amended by CGFR 64-19, 29 FR 7362, June 5, 1964; CGFR 66-33, 31 FR 15299, Dec. 6, 1966; CGFR 68-82, 33 FR 18910, Dec. 18, 1968; CGFR 72-59R, 37 FR 6192, Mar. 25, 1972]

§ 182.20-30 Filling and sounding pipes for diesel fuel tanks.

(a) Fill pipes shall be not less than 1½ inches nominal pipe size.

(b) Filling and sounding pipes shall be so arranged that overflow of liquid or vapor cannot escape to the inside of the vessel. Sounding pipes may be omitted where sounding can be accomplished through the fill pipe or where marine type fuel gages are installed. Where sounding pipes are used, their openings shall be at least as high as the opening of the fill pipe and they shall be kept closed at all times except during sounding.

(c) Fill and sounding pipes shall run as directly as possible, preferably in a straight line, from the deck connection to the top of the tank. Such pipes shall terminate on the weather deck clear of any coamings and shall be fitted with shutoff valves, watertight deck plates or screw caps suitably marked for identification. Fill and sounding pipes may terminate at the top of the tank.

(d) Where a flexible fill pipe section is necessary, suitable flexible tubing or hose having high resistance to salt water, petroleum oils, heat and vibration, may be used. Such hose shall overlap metallic pipe ends at least 1½ times the pipe diameter and shall be secured at each end by two clamps of corrosion resistant metal. The flexible section shall be accessible and as near the upper end of the filling pipe as practicable. When the flexible section is a nonconductor of electricity, the metallic sections of the filling pipe separated thereby shall be joined by a conductor for protection against static spark when filling.

[CGFR 60-54, 25 FR 9332, Sept. 29, 1960 as amended at CGD 76-154, 42 FR 48880, Sept. 26, 1977]

§ 182.20-35 Vent pipes for diesel fuel tanks.

(a) Each fuel tank shall be fitted with a vent pipe which shall be connected to the tank at its highest point under normal operating conditions.

(b) The minimum net cross-sectional area of the vent pipe shall be as follows:

(1) Not less than the cross-sectional area of ⅝-inch O.D. tubing (0.035-inch wall thickness—20 gage), if the fill pipe terminates at the top of the tank.

(2) Not less than the cross-sectional area of ¾-inch O.D. tubing (0.035-inch wall thickness—20 gage), if the fill pipe extends into the tank.

(3) Not less than the cross-sectional area of the fill pipe if provision is made to fill the tank under pressure.

(c) The discharge ends of vent pipes shall terminate on the hull exterior as high above the waterline as practicable and remote from any hull openings, or, they shall terminate in U-bends as high above the weather deck as practicable and as far from any openings into living quarters or other below deck spaces as practicable. Vent pipes terminating on the hull exterior shall be so installed or equipped as to prevent the accidental contamination of the fuel by water under normal operating conditions.

(d) The discharge ends of vent pipes shall be fitted with removable flame screens or flame arresters. The flame screens shall consist of a single screen of corrosion resistant wire of at least 30 × 30 mesh. The flame screens or flame arresters shall be of such size and design as to prevent reduction in the net cross-sectional area of the vent pipe and permit cleaning or renewal of the flame screens or arrester elements.

§ 182.20-40 Diesel fuel supply piping.

(a) *Material and workmanship.* (1) Fuel supply piping shall be of copper, nickel copper, or copper nickel having a minimum wall thickness of 0.035 inch except that piping of other materials such as seamless steel pipe or tubing which provides equivalent safety may be used.

(2) Flexible hose may be used provided it is fitted with suitable connection fittings and has high resistance to saltwater, petroleum oils and vibration.

(i) Flexible hose runs shall be visible, easily accessible and shall not penetrate watertight bulkheads.

(ii) Flexible hose shall be fabricated with an inner tube and a cover of synthetic rubber or other suitable material reinforced with wire braid. The hose cover shall be adjudged self-extinguishing per ASTM D1692, and the hose assembly be capable of withstanding free burning gasoline for 2½ minutes (test details available from Coast Guard (MMT)). Details of other fire tests designed to demonstrate this capability shall be submitted to Coast Guard (MMT) for review.

(3) Tubing connections and fittings shall be drawn or forged metal of the

flared type except that flareless fittings of the nonbite type may be used when the tubing is steel, nickel-copper, or copper nickel. When making flared tube connections the tubing shall be cut square and flared by suitable tools. Tube ends shall be annealed before flaring.

(4) Cocks are prohibited for use in fuel lines except those of the solid bottom type with tapered plugs and union bonnets.

(b) *Installation.* (1) The fuel supply line may be connected to the fuel tank at or near the bottom of the tank.

(2) Fuel lines shall be accessible, protected from mechanical injury, and effectively secured against excessive movement and vibration by the use of soft non-ferrous metal straps with no sharp edges. Where passing through bulkheads, fuel lines shall be protected by close fitting ferrules or stuffing boxes.

(3) Shutoff valves, installed so as to close against the fuel flow, shall be fitted in the fuel supply lines, one at the tank connection and one at the engine end of the fuel line to stop fuel flow when servicing accessories. The shutoff valve at the tank shall be operable from outside the tank compartment, preferably from an accessible position on the weather deck.

(4) A loop of tubing or a short length of flexible hose shall be installed in the fuel supply line at or near the engines. Such flexible hose shall be provided with suitable connection fittings and shall have a high resistance to salt water, petroleum oils, heat and vibration.

(5) A suitable marine type strainer shall be fitted in the fuel supply line in the engine compartment. No special fuel strainers other than those recommended or furnished by the engine manufacturer will be required. Drip pans fitted with flame screens may be required under fuel strainers other than those mounted on the engine.

(6) All accessories installed in the fuel line shall be independently supported.

(7) Valves for removing water or impurities from fuel in watertraps or strainers will be permitted. Such valves shall be provided with caps or plugs to prevent fuel leakage.

(50 U.S.C. 198)

[CGFR 60-54, 25 FR 9332, Sept. 29, 1960, as amended by CGFR 68-82, 33 FR 18911, Dec. 18, 1968; CGD 72-206R, 38 FR 17230, June 29, 1973]

§ 182.20-45 Ventilation of compartments containing diesel machinery.

(a) Spaces containing machinery shall be fitted with adequate dripproof ventilators, trunks, louvers, etc., to provide sufficient air for proper operation of main engines and auxiliary engines.

(b) Air-cooled propulsion and auxiliary engines installed below deck as permitted by § 182.20-10 shall be fitted with air intake ducts or piping from the weather deck. The ducts or piping shall be so arranged and supported to be capable of safely sustaining stresses induced by weight and engine vibration and to minimize transfer of vibration to the supporting structure. Prior to installation of ventilation for such engines, plans or sketches showing machinery arrangement including air intakes, exhaust stack, method of attachment of ventilation ducts to the engine, location of spark arresting mufflers and capacity of ventilation blowers shall be submitted to the Commandant for approval.

(c) Spaces containing machinery shall be fitted with at least two ducts to furnish natural or mechanical supply and exhaust ventilation. One duct shall extend to a point near the bottom of the compartment, so installed that the ordinary collection of water in the bilge will not trap the duct. Where forced ventilation is installed, the duct extending near the bottom shall be the exhaust. The total inlet area and the total outlet area of ventilation ducts shall each be not less than one square inch for each foot of beam of the vessel. These minimum areas shall be increased as necessary when such ducts are considered as part of the air supply to the engines.

(d) All ducts shall be of rigid permanent construction of fire proof material and reasonably gastight from end to end. The ducts shall lead as direct as possible and be properly fastened and supported.

(e) All supply ducts for ventilation purposes shall be provided with cowls or scoops having a free area not less than twice the required duct area. When the cowls or scoops are screened, the mouth area shall be increased to compensate for the area of the screen wire. Dampers shall not be fitted in the supply ducts. Cowls or scoops shall be kept open at all times except when the stress of weather is such as to endanger the vessel if the openings are not temporarily closed. Supply and exhaust openings shall not be located where the natural flow of air is unduly obstructed, or adjacent to possible sources of vapor ignition, nor shall they be so located that exhaust air may be taken into the supply vents.

(Secs. 11, 17, 54 Stat. 165, as amended, 166, as amended; 46 U.S.C. 526j, 526p)

[CGFR 60-54, 25 FR 9332, Sept. 29, 1960, as amended by CGFR 68-32, 33 FR 5727, Apr. 12, 1968]

§ 182.20-50 Ventilation or venting of compartments containing diesel fuel tanks.

(a) Except as otherwise provided in this paragraph enclosed compartments or spaces containing diesel fuel tanks and no machinery shall be provided with a gooseneck vent of not less than 2½ inches in diameter. Vent openings shall not be located adjacent to possible sources of vapor ignition.

(1) In small compartments or spaces a vent of not less than 1½ inches in diameter may be provided.

(2) Compartments which are adequately ventilated need not be provided with such gooseneck vents.

(Secs. 11, 17, 54 Stat. 165, as amended, 166, as amended; 46 U.S.C. 526j, 526p)

[CGFR 60-54, 25 FR 9332, Sept. 29, 1960, as amended by CGFR 68-32, 33 FR 5727, Apr. 12, 1968]

Subpart 182.25—Bilge and Ballast Systems

§ 182.25-1 General.

(a) All vessels shall be provided with a satisfactory arrangement for draining any watertight compartment other than small buoyancy compartments, under all practical conditions. Sluice valves are not permitted in watertight bulkheads.

§ 182.25-5 Bilge piping system.

(a) All vessels of 26 feet in length and over shall be provided with individual bilge lines and bilge suctions for each watertight compartment except as follows:

(1) The space forward of the collision bulkhead need not be fitted with a bilge suction line when the arrangement of the vessel is such that ordinary leakage may be removed from this compartment by the use of a hand portable bilge pump or other equipment and such equipment is provided.

(b) The bilge pipe in "S" vessels shall be not less than one inch nominal pipe size, and in "L" vessels not less than one and one-half inches. The bilge suctions shall be fitted with suitable strainers having an open area not less than three times the area of the bilge pipe.

(c) The individual bilge suction lines shall be led to a central control point or manifold. Each line shall be provided with a stop valve at the control point or manifold and in addition shall be provided with a check valve at some accessible point in the bilge line. A stop-check valve located at the control point or manifold will meet the requirements for both a stop valve and a check valve.

(d) The bilge pipe piercing the collision bulkhead shall be fitted with a screw-down valve located on the forward side of the collision bulkhead and operable from above the weather deck. In lieu thereof, a screw-down valve without a reach rod may be fitted to the bilge line on the after side of the collision bulkhead if it is readily accessible under service conditions.

[CGFR 60-54, 25 FR 9332, Sept. 29, 1960, as amended by CGFR 63-40, 28 FR 9741, Sept. 6, 1963]

§ 182.25-10 Bilge pumps.

(a) *S and L.* All vessels shall be provided with bilge pumps in accordance with Table 182.25-10(a).

(b) *S.* The fixed power bilge pump shall be self-priming and may be driven off the main engine or other source of power. It shall be permanently connected to the bilge main and may also be connected to the fire main. If of sufficient capacity the power bilge pump may also serve as a fire pump.

TABLE 182.25-10(a)

Number of passengers	Length of vessel	Bilge pumps required	Min. capacity required (gal. per minute)
"L" vessels (any number of passengers)	Over 65 feet	2 fixed power pumps	50 GPM
"S" vessels carrying more than 49 passengers and all "S" ferry vessels.	65 feet and less	1 fixed power pump and 1 portable hand pump	25 GPM 5 GPM
"S" vessels other than ferry vessels, carrying not more than 49 passengers	26 ft. up to 65 ft.	1 fixed power pump and 1 portable hand pump or 1 fixed hand pump and 1 portable hand pump	10 GPM 5 GPM 10 GPM 5 GPM
	Less than 26 feet	1 portable hand pump	5 GPM

(c) *L.* The two required fixed power bilge pumps shall be self-priming and shall each be driven by different sources of power. If one pump is driven off the main engine in a single propulsion engine installation, the other shall be independently driven. In a twin engine installation, each pump may be driven off a main propulsion engine. The pumps shall be permanently connected to the bilge main and may also be connected to the fire main.

(d) *S and L.* The fixed hand bilge pump shall be permanently connected to the bilge main and may also be connected to the fire main.

(e) *S and L.* The portable hand bilge pump shall be provided with suitable hoses for pumping bilges on the suction and discharge ends. This pump may also serve as a portable fire pump if it is of sufficient capacity.

[CGFR 63-40, 28 FR 9741, Sept. 6, 1963]

§ 182.25-15 Ballast systems.

(a) For all vessels contracted for on or after January 1, 1962, ballast piping shall not be installed to any hull compartment of a wooden vessel. Where the carriage of liquid ballast in such vessels is necessary, suitable ballast tanks, structurally independent of the hull, shall be provided.

(b) For all vessels contracted for prior to January 1, 1962, ballast systems shall meet the requirements of this section insofar as deemed reasonable and practicable by the Officer in Charge, Marine Inspection.

[CGFR 61-13, 26 FR 3927, May 5, 1961]

Subpart 182.30—Steering Apparatus

§ 182.30-1 Main steering apparatus.

(a) All vessels except non-self-propelled vessels shall be provided with suitable steering apparatus.

§ 182.30-5 Auxiliary steering apparatus.

(a) Except as further modified in this section, all single screw vessels in ocean and coastwise service shall be provided with an auxiliary steering arrangement located above the weather deck. A suitable hand tiller will be acceptable for this purpose.

(b) Auxiliary steering will not be required where no regular rudder is fitted and steering action is obtained by a change of setting of the propelling unit, or where a rudder and tiller is the normal means of steering.

Subpart 182.35—Separation of Machinery and Fuel Tank Spaces From Accommodation Spaces

§ 182.35-1 Bulkheads.

(a) Except as otherwise provided in this section, machinery and fuel tank spaces shall be separated from accommodation spaces by watertight and/or vapor tight bulkheads of double diagonal wood, marine plywood, steel plate, or equivalent construction.

(b) Where segregation can be obtained by means of a watertight and/or vapor tight engine box, this will be accepted as a substitute for the required bulkheads.

Subpart 182.40—Nonmetallic Piping Materials

Source: CGFR 70-143, 35 FR 19969, Dec. 30, 1970, unless otherwise noted.

§ 182.40-1 General.

(a) Where rigid nonmetallic material is permitted for use in piping systems by this subpart, the following restrictions shall be adhered to:

(1) Penetrations of required watertight decks and bulkheads by any rigid plastic pipe systems are prohibited, except when:

(i) Each such penetration is accomplished using an acceptable metallic fitting, welded or otherwise attached to the bulkhead or deck by an accepted method; and

(ii) An acceptable metallic shutoff valve is installed adjacent to the through deck or through bulkhead fitting. This valve shall be operable from above the bulkhead deck. If two valves are installed, one on either side of the bulkhead, the valves need not be operable from above the bulkhead deck provided immediate access to both is possible. Where both plastic and metallic pipes are used in a bulkhead penetrating system and where the two materials exist entirely on opposite sides of the bulkhead, the required shutoff valve shall be installed at the bulkhead in the metallic part of the system, and may be locally operated provided immediate access is possible.

(2) Protection from mechanical damage shall be specially considered. Protective covering or shields shall be installed to the satisfaction of the Officer in Charge, Marine Inspection.

(3) Through hull fittings and shutoff valves shall be metal. In the case of nonmetallic hulls, materials which will afford an equal degree of safety and heat resistivity as that afforded by the hull may be approved.

(4) The material specification shall show that the rigid nonmetallic material possesses characteristics adequate for its intended service and environment and shall be approved for use by the Officer in Charge, Marine Inspection.

§ 182.40-5 Vital systems.

(a) Nonmetallic piping shall not be used in gasoline and diesel fuel systems except where permitted by §§ 182.15-40 and 182.20-40.

(b) Mechanically propelled "S" vessels which are ferry vessels or which carry more than 49 passengers and mechanically propelled "L" vessels shall comply with the provisions of Subchapter F of this chapter. Rigid nonmetallic materials are acceptable for use in bilge, ballast and machinery connected piping systems on all other vessels.

§ 182.40-10 Non-vital systems.

(a) Rigid nonmetallic materials are acceptable for use in non-vital piping systems.

PART 183—ELECTRICAL INSTALLATION

Subpart 183.01—Application and Intent

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Subpart 183.10—Electrical Installations Operating at Potentials of 50 Volts or More

183.10-1 Application.
183.10-5 Generators and motors (50 volts or more).
183.10-10 Equipment protection and enclosure (50 volts or more).
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183.10-30 Distribution and circuit loads (50 volts or more).
183.10-35 Overcurrent protection, general (50 volts or more).
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183.10-45 Electric heating and cooking equipment (50 volts or more).
183.10-50 Shore power (50 volts or more).

AUTHORITY: R.S. 4405, as amended, 4462, as amended, sec. 3, 70 Stat. 152, sec. 6(b)(1), 80 Stat. 938; 46 U.S.C. 375, 416, 390b, 49 U.S.C. 1655(b); 49 CFR 1.4(a)(2). Interpret or apply R.S. 4417, as amended, 4418, as amended, 4426, as amended, 4433, as amended, 4453, as amended, 4488, as amended; 46 U.S.C. 391, 392, 404, 411, 435, 481.

SOURCE: CGFR 60-54, 25 FR 9338, Sept. 29, 1960, unless otherwise noted.

Subpart 183.01—Application and Intent

§ 183.01-1 Application.

(a) The provisions of this part shall apply to the electrical installations on all vessels contracted for on or after June 1, 1958. Electrical installations on vessels contracted for prior to that date shall meet the requirements of this part insofar as is deemed reasonable and practicable by the Officer in Charge, Marine Inspection.

§ 183.01-5 Intent.

(a) This part is intended to provide a minimum standard of regulations for electrical installations and equipment that will result in a vessel that is reasonably safe from fire caused by and/or originating in electrical equipment, and reasonably safe from electrical shock of personnel.

§ 183.01-10 Special consideration for vital systems.

(a) Electrical equipment and circuits which are a necessary part of any system vital to the safe navigation of the vessel, such as propulsion and steering systems, will be given special consideration and shall be subject to certain additional requirements as determined by the Officer in Charge, Marine Inspection. These additional requirements are contained in applicable regulations in Subchapter J (Electrical Engineering) of this chapter.

§ 183.01-15 General standards and requirements.

(a) All electrical installations shall be to the satisfaction of the Officer in Charge, Marine Inspection.

(b) The regulations contained in this Part are substantially in accord with, and in general are based upon established codes and recognized marine standards and practices. Certain of these codes and publications are referred to specifically in some regulations in this part. A list of the publications follows:

(1) Electrical Engineering Regulations, CG-259, published by United States Coast Guard.

(2) Recommended Practice for Electric Installations On Shipboard, AIEE No. 45, published by American Institute of Electrical Engineers, 33 West Thirty-ninth Street, New York 18, N.Y.

(3) National Electrical Code, published by National Fire Protection Association, 60 Batterymarch Street, Boston 10, Mass.

(4) Standard for Marine Type Electric Lighting Fixtures, Subject 595, published by Underwriters' Laboratories, Inc., 207 East Ohio Street, Chicago 11, Ill.

(5) Standard for Commercial Electric Cooking Appliances, published by Underwriters' Laboratories, Inc., 207 East Ohio Street, Chicago, Ill. 60611.

Subpart 183.05—Electrical Installations Operating at Potentials of Less Than 50 Volts

§ 183.05-1 Application.

(a) The regulations in this Subpart apply to electrical installations operating at potentials of less than 50 volts. Regulations covering electrical installations of 50 volts or more are contained in Subpart 183.10 of this part.

§ 183.05-5 Name plates (less than 50 volts).

(a) Each generator, motor and other major items of power equipment shall be provided with a name plate indicating the maker's name, its rating in volts and amperes or in volts and watts and when intended for connection to a normally grounded supply, the grounding polarity.

§ 183.05-10 Generators and motors (less than 50 volts).

(a) *L.* If both of the required fixed power bilge pumps (Table 182.25-10(a)) are electrically driven, two generators shall be provided. One of these generators shall be driven by a means independent of the main propulsion plant.

(b) *S and L.* Generators and motors shall be placed in dry, accessible and adequately ventilated locations.

(c) *S and L.* Independent generators and motors should be mounted on foundations as high as practicable above the bilges to avoid damage by splash or contact with low lying vapors. They shall not be located in low or pocketed positions.

(d) *S and L.* All generators shall be suitably protected from overcurrent by circuit breakers, fuses or by an overcurrent relay.

(e) *S and L.* Overcurrent protection of a third brush type generator shall open the field circuit.

(f) *S and L.* An emergency switch shall be provided in the normally undergrounded main supply conductor from the battery and located as closely as practicable to the supply battery.

[CGFR 63-40, 28 FR 9741, Sept. 6, 1963]

§ 183.05-15 Switchboards (less than 50 volts).

(a) Switchboards shall be placed in dry, accessible and adequately ventilated locations preferably outside the engine compartment. The switchboard shall be adequately protected and provision shall be made for access thereto. All uninsulated current carrying parts shall be mounted on nonabsorbent, noncombustible, high dielectric insulating material.

(b) Totally enclosed switchboards of the dead front type shall be used whenever they are accessible to passengers.

(c) Each ungrounded conductor of circuit supplying lights, motors or appliances shall be equipped with a circuit breaker or switch and fuses at the point of attachment to the power source. This applies also to added circuits.

(d) Switches other than those mounted on the switchboard shall be of the enclosed type.

(e) If the storage battery is not in the same compartment and adjacent to the panel or box which distributes power to the various lighting, motor and appliance branch circuits the storage battery lead shall be fused close to the battery.

§ 183.05-20 Batteries (less than 50 volts).

(a) Batteries shall be so located that the gas generated in charging will be easily dissipated by natural or induced ventilation. Batteries should not be located in the same compartment with a gasoline tank or gasoline engine, but where location elsewhere is impracticable, they shall be effectively screened by a cage or similar structure to minimize the danger of accidental spark through dropping a metal object across terminals.

(b) Batteries shall be located as high above the bilge as practicable and secured against shifting with motion of the boat. They shall be accessible with not less than 10 inches head room.

(c) Battery terminals shall be of the soldered type and all connections shall be made to the battery terminals with permanent type connectors. Spring clips or other temporary type clamps are not permitted.

(d) Acid batteries shall be located in a tray of lead or other suitable material resistant to deteriorating action by the electrolyte.

(e) Alkaline batteries employing metal containers shall be mounted on suitable insulating support and shall be prevented from coming in contact with other metal which may result in a short circuit.

(f) A battery charger intended for connection to a commercial supply voltage shall employ a transformer of the isolating type. An ammeter that is readily visible shall be included in the battery charger circuit.

(g) A voltage dropping resistor provided for charging a battery shall be mounted in a suitable ventilated noncombustible enclosure, so installed as to prevent hazardous temperatures at adjacent combustible materials.

§ 183.05-25 Radio-phone equipment (less than 50 volts).

(a) A separate circuit, fused at the main distribution panel shall be provided for each radio-phone installation.

(b) The supply cable to the radiophone installation shall be large enough to carry the current under any condition of normal operation.

§ 183.05-30 Circuit breakers (less than 50 volts).

(a) Circuit breakers, of the proper voltage rating, shall be of the manually reset type designed for inverse time delay, instantaneous short circuit protection and capable of repeatedly opening the circuit in which it is to be used without damage to the circuit breaker.

§ 183.05-35 Accessories (less than 50 volts).

(a) Accessories, such as switches, fuses, and sockets, shall be standard National Electrical Code types for the loads to be carried and shall be of types listed by, or types equal to those listed by Underwriters' Laboratories, Inc., or other recognized testing laboratory.

(b) All lights, receptacles and switches exposed to the weather shall be watertight and on vessels operating in salt water, shall be constructed of corrosion-resistant material.

§ 183.05-40 Ignition wiring (installations less than 50 volts).

(a) Ignition wiring as supplied or recommended by engine manufacturers is generally acceptable.

§ 183.05-45 Lighting and power wiring size, insulation, etc. (less than 50 volts).

(a) Wiring sizes for lighting and power shall be in accordance with Table 183.05-45(a).

(b) As a precaution against rupture by vibration, all conductors shall be of the stranded type, except where type MI cable is employed, and no conductor smaller than No. 14 A.W.G. shall be used except for short fixture leads or intercommunication wiring as set forth in paragraph (k) of this section.

TABLE 183.05-45(a).—ALLOWABLE CURRENT—CARRYING CAPACITIES OF CONDUCTORS BASED ON ROOM TEMPERATURE OF 30° C., 86° F.

[See National Electrical Code for other sizes]

Size gage No. A.W.G.	Area in circular mils	Capacity of wire	
		Rubber insulated types R, RW, RU (sizes 12-6)—Thermoplastic insulated types T, TW (all sizes)	Rubber insulated type RH
		Amperes	*Amperes*
14	4,107	15	15
12	6,530	20	20
10	10,380	30	30
8	16,510	40	45
6	26,250	55	65
4	41,740	70	85
3	52,630	80	100
2	66,370	95	115
1	83,690	110	130

NOTE: (1) The current-carrying capacities listed in this table are for 1-, 2-, and 3-conductor cables; 80 percent of these capacities must be used for 4-, 5-, and 6-conductor cables, and 70 percent for 7-, 8-, and 9-conductor cables.

(2) The allowable current-carrying capacities in this table are based on temperature alone and do not take voltage drop into consideration.

(c) Table 183.05-45(c) indicates the size of conductor required for corresponding lengths and steady state (stable) values to obtain a voltage drop of not more than 10 percent at the load terminals of a two conductor circuit.

TABLE 183.05-45(c)—CONDUCTOR SIZES FOR AMPERES—LENGTHS

Total current on circuit, amperes	Length of conductor in feet from source of current to most distant fixture										
	10	15	20	25	30	35	40	45	50	55	60
	6 volts, 2-wire—10 percent drop wire sizes (A.W.G.)										
5	14	14	14	12	12	12	10	10	10	10	8
10	14	12	10	10	8	8	8	8	6	6	6
15	12	10	8	8	8	6	6	6	4	4	4
20	10	8	8	6	6	6	4	4	4	4	3
25	10	8	6	6	4	4	4	4	3	3	2
	12 volts, 2-wire—10 percent drop wire sizes (A.W.G.)										
5	14	14	14	14	14	14	14	14	12	12	12
10	14	14	14	12	12	12	10	10	10	10	8
15	14	14	12	10	10	10	8	8	8	8	8
20	12	12	10	10	8	8	8	8	6	6	6
25	10	10	10	8	8	8	6	6	6	6	4

Other values can be computed by means of the following formula:

$$cm = K \times I \times L \ (\times 2 \text{ for two-wire circuit}) \div E \qquad (1)$$

Where:

cm = Circular-mil area of conductor.
K = 10.75 (a constant representing the mil-foot resistance of copper).
I = Load current, in amperes.
L = Length of conductor from center of distribution, in feet.
E = Voltage drop at load, in volts.

(d) After computing the circular-mil area required, reference may be made to Table 183.05-45(a) for selection of the required conductor gage size. When the computed circular-mil area is found to be less than any value given in the table, the next larger size conductor shall be used.

(e) Light and power conductors for interior wiring shall be insulated in accordance with Table 183.05-45(e).

(f) Where desired, non-metallic sheathed multiple conductor cable may be employed instead of individual conductors.

(g) Lead sheathed unarmored conductors and conductors armored with spiral wound flat metal stripping shall not be used.

(h) Conductors armored with metallic basket weave, with or without inside lead sheathing, depending upon location, in accordance with the A.I.E.E. standard No. 45, Recommended Practice for Electrical Installations on Shipboard, may be used.

(i) Where desired, metallic sheathed cable type MI, as defined in the National Electrical Code, may be used. (This standard may be obtained from National Fire Protection Association, 60 Batterymarch St., Boston 10, Mass.)

(j) Conductors, from receptacles to fixtures, shall be flexible cord in accordance with Tables 183.05-45(j)(1) and 183.05-45(j)(2).

TABLE 183.05-45(j)(1)—FLEXIBLE CORDS

Type letter [1]	Trade name	Size A.W.G.	No. of conductors	Conductor insulation	Outer covering	Use
S	Hard service cord.	18 to 10 inclusive.	2 or more	Rubber thermoplastic.	Rubber	Pendant or portable. Damp places. Extra hard usage.
SO					Oil resistant compound.	
ST					Thermoplastic.	

[1] See National Electrical Code issued by National Fire Protection Association, 60 Batterymarch Street, Boston 10, Mass.

(k) For intercommunication wiring, rubber or thermoplastic covered single braid IC cable, type RF-32 (rubber covered fixture wire—$\frac{1}{32}$-in. installation) stranded and not smaller than No. 16 A.W.G. or equivalent shall be used. Commercial bell wire shall not be used.

TABLE 183.05-45(j)(2)—ALLOWABLE CURRENT-CARRYING CAPACITY OF FLEXIBLE CORD

Size A.W.G.	Amperes
18	7
16	10
14	15
12	20
10	25

§ 183.05-50 Lighting and power wiring installation (less than 50 volts).

(a) *Wiring.* (1) All wiring shall be run as high as practicable above bilges.

(2) Wiring, where subject to mechanical damage shall be protected in accordance with the National Electrical Code: article 352 for metal raceways, article 346 for conduit, and article 348 for metallic tubing.

(b) *Wiring joints and splices.* (1) Wiring joints and splices shall be mechanically secure and made in junction boxes.

(2) Unless a splice is made by an insulated pressure wire connector listed by Underwriters' Laboratories, Inc., it shall be thoroughly soldered, taped first with rubber and then with friction tape, or the soldered joint shall be otherwise protected as to provide an insulation the same as that of the conductors joined.

(3) Where ends of stranded conductors are to be clamped under terminal screws, they shall be formed and soldered unless fitted with pressure terminal connectors listed by Underwriters' Laboratories, Inc.

(c) *Conductors.* (1) Conductors shall be protected from overcurrent in accordance with their current-carrying capacities as given in Table 183.05-45(a).

NOTE: Overcurrent protection for conductors is provided for the purpose of opening the electric circuit if the current reaches a value which will cause an excessive or dangerous temperature in the conductor or conductor insulation.

(2) The conductors supplying motors and motor operated appliances shall be protected by a separate overcurrent device which is responsive to motor current. This device shall be rated or set at not more than 125 percent of the motor full-load current rating.

(d) *Grounding.* (1) On metal vessels the enclosures and frames of all major electrical equipment shall be permanently grounded to the metal hull of the vessel by the mounting bolts or other means. The term "grounded" in this case means that a normally non-current carrying conductor is used to connect the non-current carrying metal enclosures or frames of the electrical equipment to any metal area which is electrically continuous with the wetted surface of the metal hull (for example, a metal enclosure would be considered as grounded if it was attached to a metal bulkhead by metal bolts, and if the bulkhead was welded or bolted to a metal hull).

(2) On wooden vessels, bonding together of the enclosures and frames of major electrical equipment to a common ground shall be effected. This means that a normally non-current carrying conductor is used to connect the non-current carrying metal enclosures or frames of major electrical equipment to a common, electrically-continuous, metal network that takes the place of a metal hull.

(3) For grounded systems the negative polarity of the supply source should be grounded to the metal hull or, for wooden vessels, connected to the common ground, but shall not normally carry current.

(4) On a wooden vessel where a ground plate is provided for radio equipment it shall be connected to the common ground.

(5) For grounded systems, the use of hull return is not recommended except for engine starting purposes.

Subpart 183.10—Electrical Installations Operating at Potentials of 50 Volts or More

§ 183.10-1 Application.

(a) The regulations in this subpart apply to electrical installations operating at potentials of 50 volts or more. Regulations covering electrical installations of less than 50 volts are contained in Subpart 183.05 of this part.

§ 183.10-5 Generators and motors (50 volts or more).

(a) *S and L.* Each major generator and motor shall be fitted with a name-plate of corrosion-resistant material marked with the following information as applicable:

(1) Name of manufacturer.

(2) Manufacturer's type and frame designation.

(3) Output in KW of watts or horsepower rating.

(4) Kind of rating (continuous, intermittent, etc.).

(5) Revolutions per minute at rated load.

(6) Amperes at rated load.

(7) Voltage.

(8) Frequency if applicable.

(9) Number of phases, if applicable.

(10) Type of winding (for direct-current motors).

(b) *L.* If both of the required fixed power bilge pumps (Table 182.25-10(a)) are electrically driven, two generators shall be provided. One of these generators shall be driven by a means independent of the main propulsion plant.

(c) *S and L.* Generators and motors shall be mounted as high as practicable above the bilges to avoid damage by splash or contact with low lying vapors. They shall not be located in low or pocketed positions.

(d) *S and L.* Generators and motors for use below decks shall be located in as dry a place as practicable.

(e) *S and L.* Motors for use in locations exposed to the weather shall be of the watertight type or shall be enclosed in watertight housings. The motor enclosure or housing shall be provided with a check valve for drainage or a tapped hole at the lowest part of the frame which will serve for application of a drain pipe or drain plug.

(f) *S and L.* Generators and motors for use in machinery spaces shall generally be designed for an ambient temperature of 50° C. (122° F.). Generators and motors for use in locations where the ambient temperature will not exceed 40° C. (104° F.) may be designed for an ambient temperature of 40° C.

(1) If it can be substantiated that the ambient temperature in machinery spaces will not exceed 40° C. under normal operating conditions, the motors and generators may be designed for an ambient temperature of 40° C.

(2) Generators and motors designed for 40° C. may be used in 50° C. ambient locations provided the machines are derated to 80 percent of full load rating, and the rating or setting of the

overcurrent devices is reduced accordingly. An additional nameplate specifying the derated capacity shall be provided for each such motor and generator.

(g) *S and L.* A voltmeter and an ammeter shall be provided that can be used for measuring voltage and current of each generator that is in operation. For alternating-current generators a means for measuring frequency shall also be provided. Additional control equipment and measuring instruments shall be provided as necessary to insure satisfactory operation of the generator or generators.

[CGFR 63-40, 28 FR 9741, Sept. 6, 1963]

§ 183.10-10 Equipment protection and enclosure (50 volts or more).

(a) Except as provided otherwise in this subpart, all electrical equipment including motors, generators, controllers, distribution panels, etc., shall be dripproof protected. Dripproof protected means that equipment and machinery is so constructed or protected that its successful operation is not interfered with when subjected to falling moisture or dirt, and rotating or uninsulated parts cannot be inadvertently touched or approached nearer than a safe distance by any person.

(b) Equipment mounted on a hinged door of an enclosure shall be constructed or shielded in such a manner that no live parts of the door mounted equipment will be exposed to accidental contact by a person with the door open and the circuit energized.

(c) Any cabinet, panel, or box containing more than one source of potential in excess of 24 volts shall be fitted with a permanent sign warning personnel of this condition and identifying the circuits to be disconnected to remove all potentials in excess of 24 volts.

(d) Distribution panel boards shall be the safety type.

§ 183.10-15 Main distribution panels (50 volts or more).

(a) The main distribution panel is that device to which the generator leads are connected, and from which the electric leads throughout the vessel directly or indirectly receive their electric power.

(1) If the main distribution panel is floor mounted and is not dripproof protected, it is considered to be a switchboard.

(b) Switchboards shall be fitted with driphoods and non-conducting hand rails. Non-conducting mats or grating shall be provided on deck in front and rear of switchboards.

(c) Adequate working space shall be provided around all main distribution panels and switchboards. Not less than 24" shall be provided in front of main distribution panels and switchboards and not less than 18" shall be provided in the rear of switchboards that are accessible from the rear.

(d) Metal cases of instruments and secondary windings of instrument transformers shall be grounded.

(e) Main distribution panels shall be placed in dry, accessible, and adequately ventilated locations preferably outside the engine compartment. All uninsulated current carrying parts shall be mounted on nonabsorbent, noncombustible, high dielectric insulating material.

(f) Main distribution panels shall be of the dead front type where voltage to ground is in excess of 150 volts A.C. or 250 volts D.C.

§ 183.10-20 Wiring methods and materials (50 volts or more).

(a) All wiring and cables shall be suitable for marine service and for the particular installation used. In addition—

(1) Cable must be constructed in accordance with U.S. Navy Standards, Institute of Electrical and Electronic Engineers Recommended Practice 45, or be a suitable commercial grade cable, with stranded conductors, that is Underwriters Laboratories listed and rated for at least 75° C. service;

(2) Flexible or portable cords such as SO, STO, and similar types cannot be used for permanently installed wiring; and

(3) All commercial grade cables must be specifically approved for each installation.

(b)(1) Electric cable for installation in damp or wet location must be—

(i) Impervious sheathed;

(ii) Impervious sheathed and armored;

(iii) Reinforced sheathed and armored;

(iv) Lead and armored; or

(v) Mineral insulated metal sheathed.

(2) The armor of cable subject to salt water or salt water spray may be—

(i) Bronze; or

(ii) Aluminum.

(3) The sheath of mineral insulated metal sheathed cable must be seamless annealed copper.

(c)(1) Electric lighting and power cable shall not be allowed to carry a continuous current in excess of the maximum current capacities listed in Tables 183.10-20(c)(1) and (2).

(2) A commercial cable's temperature rating other than those listed in Table 183.10-20(c)(2) must be current rated in accordance with the National Electric Code for 40° C. ambient temperatures.

(3) A Navy cable must be rated in accordance with current published Navy standards.

TABLE 183.10-20(c)(1) IEEE-45 MARINE CABLE—MAXIMUM CURRENT-CARRYING CAPACITIES FOR CONTINUOUS SERVICE [1]

Conductor size		Current in amperes								
Area (Circular mils)	A.W.G.	1-conductor			2-conductor			3-conductor		
		R or T	B or V	AV or S	R or T	B or V	AV or S	R or T	B or V	AV or S
212,000	4/0	284	350	383	228	287	314	199	243	265
168,000	3/0	245	308	337	197	252	275	175	211	231
133,000	2/0	212	268	293	171	219	238	153	184	201
106,000	1/0	183	233	254	151	192	210	132	160	175
83,700	1	157	200	219	131	167	183	116	138	150
66,400	2	136	172	188	113	145	158	101	120	131
52,600	3	117	149	163	100	125	138	88	104	113
41,700	4	100	129	141	87	110	120	78	90	99
33,100	5	84	112	122	76	96	105	67	79	87
26,300	6	74	97	107	66	84	91	58	69	74
20,800	7	64	84	91	58	72	79	52	59	64
16,500	8	54	75	81	50	62	68	46	52	57
10,400	10	40	55	60	38	47	52	34	40	43
6,530	12	28	36	39	26	30	33	25	26	29
4,110	14	18		22	17		21	15		19

[1] The values given in this table are based upon an ambient temperature of 40°C and maximum conductor temperature of:
75°C for types R (thermosetting heat resistant rubber) and T (thermoplastic polyvinyl chloride) cables;
85°C for types B (thermosetting high temperature rubber) and V (varnished cloth) cables;
95°C for types S (silicone rubber) and AV (asbestos-varnished cloth) cable.

TABLE 183.10(c)(2) [1] COMMERCIAL CABLE—MAXIMUM CURRENT-CARRYING CAPACITIES FOR CONTINUOUS SERVICE—3 OR LESS CONDUCTORS

[Current in amperes]

Conductor size	Temperature rating of conductors		
Area (Circular mils)	A.W.G.	75° C	85° C and 90° C
212,000	4/0	202	211
168,000	3/0	176	189
133,000	2/0	154	166
106,000	1/0	132	139
83,700	1	114	126
66,400	2	101	108
52,600	3	88	94
41,700	4	75	81
26,300	6	57	63
16,500	8	40	45
10,400	10	26	36
6,530	12	18	27
4,110	14	13	22

[1] Extracted from the National Electric Code.

(d) All wiring shall be run as high as practicable above bilges.

(e) All cables installed where particularly liable to damage such as locations in way of doors, hatches, etc., shall be specially protected by removable metal coverings, angle irons, pipe, or other equivalent means. All such metallic coverings are to be electrically continuous and effectively grounded to the metal hull or common ground, and all such coverings such as pipe which may trap moisture shall be provided with holes for drainage. Where cable protection is carried through watertight decks or bulkheads, the installation shall be such that will insure the watertight integrity of the structure.

(f) Cables entering boxes or fittings shall be protected from abrasion, and shall conform with the following requirements:

(1) Openings through which conductors enter shall be adequately closed.

(2) The cable armor shall be secured to the box or fitting.

(3) In damp or wet locations, the cable entrance shall be watertight.

(g) The enclosures of all equipment shall be permanently grounded to the metal hull of the vessel by the mounting bolts or other means. The term "grounded" in this case means that a normally non-current carrying conductor is used to connect the non-current carrying metal enclosures of electrical equipment to any metal area which is electrically continuous with the wetted surface of the metal hull (for example, a metal enclosure would be considered as grounded if it was attached to a metal bulkhead by metal bolts, and if the bulkhead was welded or bolted to a metal hull). On a wooden vessel, bonding together of the enclosures to a common ground shall be effected. This means that a normally non-current carrying conductor is used to connect the non-current carrying metal enclosures of electrical equipment to a common, electrically-continuous, metal network that takes the place of a metal hull.

(1) On a wooden vessel where a ground plate is provided for radio equipment it shall be connected to this common ground.

(2) When a vessel is connected to shore power, a bonding cable may be used to connect the metal hull or on wooden vessels the common ground, to shore ground.

(h) Each lead covered cable and each armored cable is to have the metallic covering electrically and mechanically continuous and grounded to the metal hull, or on wooden vessels, bonded to the common ground provided by paragraph (g) of this section, at each end of the run, except that final sub-circuits may be grounded at the supply end only.

(i) All equipment, including switches, fuses, lampholders, etc., shall be of a type designed for the potential involved and so identified.

(j) Junction boxes, connection boxes, and outlet boxes, shall have an internal depth of at least 1½ inches, except that when a box is incorporated in a fixture the depth may be decreased to not less than 1 inch provided the volume of the box is not less than 20 cubic inches. The free space within such boxes for each conductor, not counting fixture wires, shall not be less than that given in Table 183.10-20(j). Table 183.10-20(j) applies where no fittings or devices, such as cable clamps, hickeys, switches or receptacles are contained in the box. Where one or more such devices are contained in the box, each such device shall count as one conductor. Each conductor terminated in the box is counted as one conductor.

TABLE 183.10-20(j)

A.W.G. size of conductor No.	Free space for each conductor in box, cubic inches
14	2.0
12	2.25
80	2.50
1	3.0

(k) Junction boxes, connection boxes, and outlet boxes, for use in damp or wet locations shall be of watertight construction.

(l) Lighting fixtures shall be constructed in accordance with the requirements of Underwriters' Laboratories, Inc. Standard for Marine Type Electric Lighting Fixtures, Subject 595, or shall bear the proper Underwriters' Laboratories, Inc. "Marine Type" label, or shall be constructed in accordance with the requirements of other recognized testing laboratories.

(m) A separate circuit, fused at the main distribution panel shall be provided for each radiophone installation.

(n) Knife switches shall be so placed or designed that gravity or vibration will not tend to close them. Knife switches, unless of the double throw type, shall be connected so that the blades are dead when the switch is in the open position. Circuits shall be connected to the fuse end of switches and to the coil end of circuit breakers, except that generator leads or incoming feeders may be connected to either end of circuit breakers.

(o) Receptacle outlets and attachment plugs for the attachment of portable lamps, tools, and similar apparatus supplies as ship's equipment and operating at 100 volts or more, shall provide a grounding pole and a grounding conductor in the portable cord, to ground the non-current carrying metal parts of the portable apparatus. Portable apparatus shall be deemed to be any apparatus served by means of a flexible extension cord, whether the apparatus is permanently mounted or not.

(1) Receptacle outlets of the type providing a grounded pole shall be of a distinctive design that will not permit the dead metal parts of portable apparatus to be connected to a live conductor.

(46 U.S.C. 391a, 489, 390h)

[CGFR 60-54, 25 FR 9338, Sept. 29, 1960, as amended by CGFR 72-35, 37 FR 4962, Mar. 8, 1972]

§ 183.10-25 Disconnect switches and devices (50 volts or more).

(a) Externally operable switches or circuit breakers shall be provided for motor and controller circuits and shall open all conductors of the circuit.

(1) If the disconnect means is not within sight of the equipment which the circuit supplies and is at a location accessible to passengers, means shall be provided for locking the disconnect device in the "open" position.

(2) For circuits protected by fuses, the disconnect switch required for fuses in § 183.10-35(b) will be considered as adequate for disconnecting the circuit from the supply.

(3) The disconnect means may be in the same enclosure with motor controllers.

(b) Disconnect means shall be provided to open all conductors of generator and shore power cables.

§ 183.10-30 Distribution and circuit loads (50 volts or more).

(a) In general the electrical source located within the vessel and distribution system shall not be grounded. That is, a current carrying conductor, or a part of the system electrically continuous with any current-carrying conductor, shall not be intentionally connected, directly or indirectly, to the metal hull, or on wooden vessels to the common ground. An electrical installation that has any current carrying conductor intentionally connected, directly or indirectly to the metal hull, or on wooden vessels to the common ground, shall be subject to certain additional requirements as determined by the Officer in Charge, Marine Inspection. These additional requirements are contained in applicable regulations in Subchapter J (Electrical Engineering) of this chapter.

(1) Figure 183.10-30(a)(1) shows a typical two wire electrical system showing various acceptable methods of circuit and equipment protection and control.

(2) All circuits are to be completely metallic and hull return shall not be used.

(3) The shore power sources may be either ungrounded or grounded.

(b) The connected load on a lighting branch circuit shall not exceed 880 watts, computed on the basis of the lamp sizes to be installed, but in no case less than 50 watts per outlet. Circuits supplying electrical discharge lamps shall be computed on the basis of ballast input current.

(c) The branch circuit cables for motor and lighting loads shall be not smaller than No. 14 AWG.

§ 183.10-35 Overcurrent protection, general (50 volts or more).

(a) Overcurrent protection shall be provided for each conductor for the purpose of opening the electric circuit if the current reaches a value which will cause an excessive or dangerous temperature in the conductor or conductor insulation.

(b) Disconnect means shall be provided on the supply side of and adjacent to all fuses for the purpose of deenergizing the fuses for inspection and maintenance purposes.

(1) All disconnect means shall open all conductors of the circuit simultaneously.

(c) Conductors, including generator leads and shore power cables, shall be protected in accordance with current-carrying capacities, as given in Table 183.10-20(c).

(1) If the allowable current-carrying capacity of the conductor does not correspond to a standard size fuse, the next larger size or rating may be used but not exceeding 150 percent of the allowable current-carrying capacity of the conductor. Plug (screw in type) fuses and fuseholders shall not be used in circuits exceeding 125 volts between conductors. The screw shell of plug type fuseholders shall be connected to the load of the circuit. Edison base fuses shall not be used.

NOTE: Edison base fuses are those having threads like those on an ordinary light bulb.

(2) If the allowable current-carrying capacity of the conductor does not correspond to a standard rating of circuit breakers, the next larger rating may be used but not exceeding 150 percent of the allowable current-carrying capacity of the conductor.

(d) Lighting branch circuits shall be protected against over-current either by fuses rated at not more than 10 amperes or by circuit breakers rated or set at not more than 15 ampheres.

(e) Circuit breakers of the proper voltage rating shall be of the manually reset type designed for inverse time delay, instantaneous short circuit protection and capable of repeatedly opening the circuit in which it is to be used without damage to the circuit breaker.

(1) Circuit breakers shall indicate whether they are in the open or closed position.

(f) Devices such as instruments, pilot lights, ground detector lights, potential transformers, etc., shall be supplied by circuits protected by overcurrent devices.

(g) Each generator shall be protected with an overcurrent device set at a value not exceeding 15 percent above the full-load rating for continuous rated machines or the overload rating for special rated machines.

§ 183.10-40 Overcurrent protection for motors and motor branch circuits.

(a) All motors shall be provided with running protection against overcurrent in accordance with Table 183.10-40(a). A protective device integral with the motor which is responsive to motor current or to both motor current and temperature may be used.

(b) Overcurrent devices shall be installed to protect the motor branch circuit conductors, the motor control apparatus, and the motors against overcurrent due to short circuits or grounds.

(1) The motor branch circuit overcurrent device shall be capable of carrying the starting current of the motor. Overcurrent protection shall be considered as being obtained when this overcurrent device has a rating or setting not exceeding the values given in Table 183.10-40(a).

(2) Each manually started continuous duty motor rated at one horsepower or less which is within sight from the starter location, shall be consid-

ered as protected against overcurrent by the overcurrent device protecting the conductors of the branch circuit. This branch circuit overcurrent device shall not be larger than that specified by Table 183.10-40(a), except that any such motor may be used at 125 volts or less on a branch circuit protected at 20 ampheres.

(c) Motor branch circuit overcurrent protection and motor-running overcurrent protection may be combined in a single overcurrent device if the rating or setting of the device provides the running overcurrent protection specified in Table 183.10-40(a).

TABLE 183.05-45(e)—CONDUCTOR INSULATIONS

Type letter[1]	Trade name	Insulation		Thickness of insulation	Outer covering	Maximum operating temp.	Special provisions
R	Code	Code—rubber	14-12	$\frac{2}{64}$ in.	Moisture-resistant, flame-retardant, fibrous covering	60° C. 140° F.	General use.
			10	$\frac{3}{64}$ in.			
			8-2	$\frac{4}{64}$ in.			
			1	$\frac{5}{64}$ in.			
RW	Moisture-resistant	Moisture-resistant rubber	14	$\frac{3}{64}$ in.	Moisture-resistant, flame-retardant, fibrous covering	60° C. 140° F.	General use and wet locations.
			8-2	$\frac{4}{64}$ in.			
			1	$\frac{5}{64}$ in.			
RU	Latex	90% unmilled grainless rubber.	14-10	18 mils	Moisture-resistant, flame-retardant, fibrous covering	60° C. 140° F.	General use.
			8-6	25 mils			
RH	Heat-resistant	Heat-resistant rubber	14-12	$\frac{2}{64}$ in.	Moisture-resistant, flame-retardant, fibrous covering	75° C. 167° F.	General use.
			10	$\frac{3}{64}$ in.			
			8-2	$\frac{4}{64}$ in.			
			1	$\frac{5}{64}$ in.			
T	Thermoplastic	Flame-retardant thermoplastic compound.	14-10	$\frac{2}{64}$ in.	None	60° C. 140° F.	General use.
			8	$\frac{3}{64}$ in.			
			6-2	$\frac{4}{64}$ in.			
			1	$\frac{5}{64}$ in.			
TW	Moisture-resistant, thermoplastic.	Flame-retardant, moisture-resistant thermoplastic.	14-10	$\frac{2}{64}$ in.	None	60° C. 140° F.	General use and wet locations.
			8	$\frac{3}{64}$ in.			
			6-2	$\frac{4}{64}$ in.			
			1	$\frac{5}{64}$ in.			

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[1] See National Electrical Code issued by National Fire Protection Association, 60 Batterymarch Street, Boston, Mass. 02110.

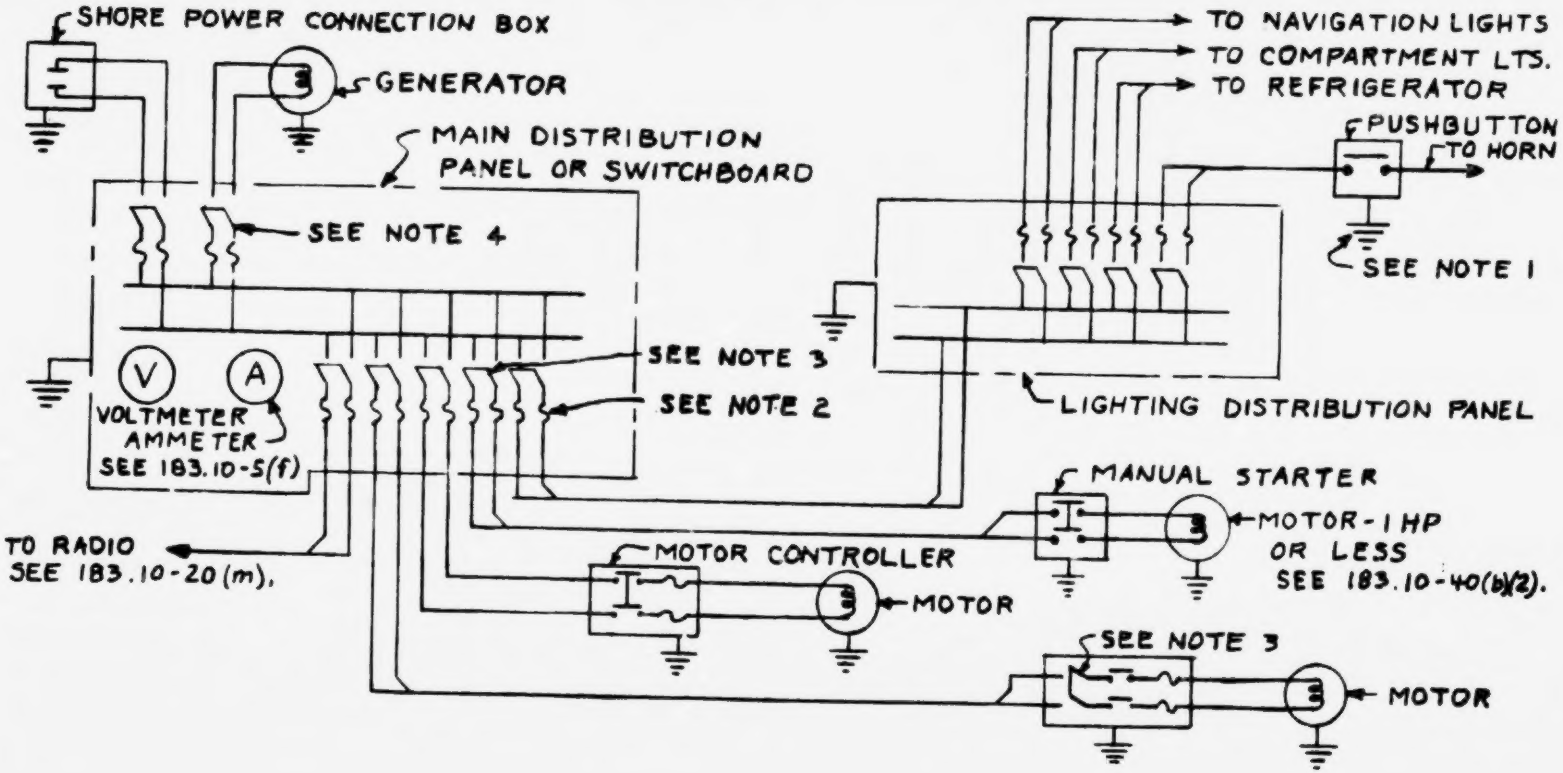
SHORE POWER CONNECTION BOX
GENERATOR
MAIN DISTRIBUTION PANEL OR SWITCHBOARD
SEE NOTE 4
V
A
VOLTMETER
AMMETER
SEE 183.10-5(f)
SEE NOTE 3
SEE NOTE 2
TO RADIO SEE 183.10-20(m).
TO NAVIGATION LIGHTS
TO COMPARTMENT LTS.
TO REFRIGERATOR
PUSHBUTTON
TO HORN
SEE NOTE 1
LIGHTING DISTRIBUTION PANEL
MANUAL STARTER
MOTOR - 1 HP OR LESS SEE 183.10-40(b)(2).
MOTOR CONTROLLER
MOTOR
SEE NOTE 3
MOTOR

FIGURE 183.10-30(a)(1)—*Typical ungrounded electrical system*

NOTES 1 Ground symbol indicates a metallic connection to the vessel's metal hull, or, on wooden vessels it indicates bonding to the common ground. (See § 183.10-20(g).)

2 Circuit breakers may be used in lieu of switches and fuses.

3 Disconnect means not within sight of equipment to be disconnected, which is accessible to passengers, shall be provided with means for locking in the open position. (See § 183.10-25(a)(1).)

4 A double pole-double throw switch with one set of fuses may be used for disconnecting the generator and shore power cables. (See § 183.10-25(b).)

TABLE 183.10-40(a)—CONDUCTOR SIZE AND OVERCURRENT PROTECTION FOR MOTORS

Full load current rating of motor in amperes	Minimum size conductor AWG and MCM									For running protection of motors (amperes) [1]		Maximum allowable rating or setting of branch circuit protective devices (amperes)							
	1-conductor			2-conductor			3-conductor					With code letters F to V, inclusive, or without code letters: Single-phase and squirrel cage and synchronous, full voltage, resistor and reactor starting		With code letters B to E, inclusive: Single-phase and squirrel cage and synchronous, full voltage resistor or reactor starting. With code letters F to V, inclusive: Autotransformer starting. Without code letters: Squirrel cage and synchronous, autotransformer starting; high reactance squirrel cage. (Both not more than 30 amperes)		With code letters B to E, inclusive: Squirrel cage and synchronous, autotransformer starting. Without code letters: Squirrel cage and synchronous, autotransformer starting; high reactance squirrel cage. (Both more than 30 amperes)		With code letter A, all motors. Without code letters: Direct-current and wound rotor motors	
	R	VC	AVC	R	VC	AVC	R	VC	AVC	Maximum rating of nonadjustable protective devices	Maximum setting of adjustable protective devices	Fuses	Circuit breakers (nonadjustable trip)	Fuses	Circuit breakers (nonadjustable trip)	Fuses	Circuit breakers (nonadjustable trip)	Fuses	Circuit breakers (nonadjustable trip)
1	14	12	14	14	12	14	14	12	14	2	1.25	15	15	15	15	15	15	15	15
2	14	12	14	14	12	14	14	12	14	3	2.50	15	15	15	15	15	15	15	15
3	14	12	14	14	12	14	14	12	14	4	3.75	15	15	15	15	15	15	15	15
4	14	12	14	14	12	14	14	12	14	6	5.04	15	15	15	15	15	15	15	15
5	14	12	14	14	12	14	14	12	14	8	6.25	15	15	15	15	15	15	15	15
6	14	12	14	14	12	14	14	12	14	8	7.50	20	15	15	15	15	15	15	15
7	14	12	14	14	12	14	14	12	14	10	8.75	25	20	20	15	15	15	15	15
8	14	12	14	14	12	14	14	12	14	10	10.00	25	20	20	20	20	20	15	15
9	14	12	14	14	12	14	14	12	14	12	11.25	30	30	25	20	20	20	15	15
10	14	12	14	14	12	14	14	12	14	15	12.50	30	30	25	20	20	20	15	15
11	14	12	14	14	12	14	14	12	14	15	13.75	35	30	30	30	25	30	20	20
12	14	12	14	14	12	14	14	12	14	15	15.00	40	30	30	30	25	30	20	20
13	12	12	14	12	12	14	12	12	14	20	16.25	40	40	35	30	30	30	20	20
14	12	12	14	12	12	14	12	12	12	20	17.50	45	40	35	30	30	30	25	30
15	12	12	14	12	12	14	12	12	12	20	18.75	45	40	40	30	30	30	25	30
16	12	12	14	12	12	12	12	12	12	20	20.00	50	40	40	40	35	40	25	30
17	12	12	12	12	12	12	10	12	12	25	21.25	60	50	45	40	35	40	30	30
18	12	12	12	10	12	12	10	12	12	25	22.50	60	50	45	40	40	40	30	30
19	12	12	12	10	12	12	10	10	12	25	23.75	60	50	50	40	40	40	30	30
20	10	12	12	10	12	12	10	10	12	25	25.00	60	50	50	40	40	40	30	30
22	10	12	12	10	10	12	10	10	10	30	27.50	70	70	60	50	45	50	35	40
24	10	12	12	10	10	12	8	10	10	30	30.00	80	70	60	50	50	50	40	40
26	10	10	12	8	10	10	8	10	10	35	32.50	80	70	70	70	60	70	40	40

§ 183.10-45 Electric heating and cooking equipment (50 volts or more).

(a) Electric space heaters for heating rooms and compartments shall be provided with thermal cutouts to prevent overheating. Heaters shall be so constructed and installed to prevent the hanging of towels, clothing, etc. on the heaters, and to prevent overheating of heater parts and adjacent bulkheads or decks.

(b) All electric cooking equipment, attachments, and devices, shall be of rugged construction and so designed as to permit complete cleaning, maintenance, and repair.

(1) Doors shall be provided with heavy duty hinges and locking devices to prevent accidental opening in heavy seas.

(2) Electric cooking equipment shall be mounted to prevent dislodgement in heavy seas, and for grill or similar type cooking equipment means shall be provided to effect positive grease or fat collection and to prevent spillage on wiring or deck.

(3) Where necessary for safety of personnel, grab rails shall be provided. Electric ranges shall be provided with sea rails with suitable barriers to resist accidental cook pot movement.

(4) Unspecified construction and circuit details shall be in accordance with Underwriters' Laboratories, Inc., Standard for Commercial Electric Cooking Appliances.

§ 183.10-50 Shore power (50 volts or more).

(a) At a convenient location, a shore power connection box or receptacle shall be permanently installed and a cable connecting this box or receptacle to the main distribution panels shall be permanently installed.

(1) The shore power cable shall be provided with a disconnect means located on or near the main distribution panel.

PART 184—VESSEL CONTROL AND MISCELLANEOUS SYSTEMS AND EQUIPMENT

Subpart 184.01—Application and intent

Sec.
184.01-1 Application.
184.01-5 Intent.

Subpart 184.05—Cooking and Heating

184.05-1 Restrictions.

Subpart 184.10—Mooring Equipment

184.10-1 Anchors, cables, and hawsers.

Subpart 184.15—Navigation Lights and Shapes, Whistles, Fog Horns, and Fog Bells

184.15-1 Requirements in Rules of the Road.
184.15-5 Light intensity standards.
184.15-10 Light screens.

Subpart 184.20—Compass

184.20-1 Vessels required to have compasses.

Subpart 184.25—Radio

184.25-1 Requirements of the Federal Communications Commission.

Subpart 184.30—Emergency Lighting

184.30-1 Portable lights.
184.30-5 Lights for lounge areas below the main deck.

Subpart 184.35—Engine Control

184.35-1 Engineroom communication system.

Subpart 184.40—Work Vests

184.40-1 Approved unicellular plastic foam work vests.
184.40-5 Use.
184.40-10 Stowage.
184.40-15 Inspections.

AUTHORITY: R.S. 4405, as amended, 4462, as amended, sec. 3, 70 Stat. 152, sec. 6(b)(1), 80 Stat. 938; 46 U.S.C. 375, 416, 390b, 49 U.S.C. 1655(b); 49 CFR 1.4(a)(2), unless otherwise noted. Interpret or apply R.S. 4417, as amended, 4418, as amended, 4426, as amended, 4453, as amended; 46 U.S.C. 391, 392, 404, 435.

SOURCE: CGFR 60-54, 25 FR 9346, Sept. 29, 1960, unless otherwise noted.

Subpart 184.01—Application and Intent

§ 184.01-1 Application.

(a) The provisions of this part shall apply to all vessels except as specifically noted in this part.

(Sec. 17, 54 Stat. 166, as amended; 46 U.S.C. 526p)

§ 184.01-5 Intent.

(a) The intent of this part is to insure that the vessel control systems and the miscellaneous systems and equipment required herein shall be suitable for the purpose intended.

Subpart 184.05—Cooking and Heating

§ 184.05-1 Restrictions.

(a) Cooking and heating equipment shall be suitable for marine use.

(b) The use of liquefied petroleum gas for cooking, heating, or other purposes is prohibited on all vessels.

(c) The use of gasoline for cooking, heating or lighting is prohibited on all vessels.

(R.S. 4472, as amended, 4488, as amended; 46 U.S.C. 170, 481)

Subpart 184.10—Mooring Equipment

§ 184.10-1 Anchors, cables, and hawsers.

(a) All vessels shall be fitted with such ground tackle and hawsers as deemed necessary by the Officer in Charge, Marine Inspection, depending upon the size of the vessel, the waters on which it operates, and other operating hazards.

(R.S. 4488, as amended; 46 U.S.C. 481)

Subpart 184.15—Navigation Lights and Shapes, Whistles, Fog Horns, and Fog Bells

§ 184.15-1 Requirements in Rules of the Road.

(a) All vessels shall be fitted with navigation lights and shapes, whistles, fog horns, and fog bells as prescribed by law and regulation.

§ 184.15-5 Light intensity standards.

(a) Navigation lights shall be of sufficient intensity so that the candlepower outside the lens is not less than that amount corresponding to the required distance of visibility as specified in Table 184.15-5(a).

TABLE 184.15-5(a)

Distance of visibility, in nautical miles	Candle-power
1	1.0
2	5.5
3	17.6
5	100.0

NOTE: In Table 184.15-5(a) the standards are based upon a transmissivity factor of 70 percent per sea-mile and a practical threshold of vision of ⅔ sea-mile candles.

(b)-(c) [Reserved]

(d) The light intensity standards of this section shall apply to new navigation lights installed and replacement of existing lights made on or after July 1, 1974.

(Sec. 17, 54 Stat. 166, sec. 3, 70 Stat. 152, sec. 6(b)(1), 80 Stat. 937; 46 U.S.C. 526p, 390(b), 49 U.S.C. 1655(b)(1); 49 CFR 1.46(b))

[CGFR 67-91, 32 FR 20813, Dec. 27, 1967, as amended by CGD 74-7R, 39 FR 3270, Jan. 25, 1974]

§ 184.15-10 Light screens.

Light screens when required by the applicable Rules of the Road for port and starboard side lights shall be painted with a flat black paint and shall project not less than three (3) feet forward of the center of the light source.

(Convention on the International Regulations for Preventing Collisions at Sea, 1972 (as rectified); E.O. 11964 (42 FR 4327); Pub. L. 95-75, 91 Stat. 308; 49 CFR 1.46(b))

[CGFR 68-32, 33 FR 5727, Apr. 12, 1968, as amended by CGD 77-052, 42 FR 56332, Oct. 25, 1977]

Subpart 184.20—Compass

§ 184.20-1 Vessels required to have compasses.

(a) Except as otherwise provided in this section, every vessel shall be fitted with a suitable compass.

(b) The following vessels need not be fitted with a compass:

(1) Vessels in river service.

(2) Non-self-propelled vessels.

(3) Vessels operating in protected waters with short restricted routes.

Subpart 184.25—Radio

§ 184.25-1 Requirements of the Federal Communications Commission.

(a) Radio transmitting and receiving installations or radiotelephones are required on certain vessels carrying passengers. Details of the application of this requirement as well as the details of the installation shall be as set forth in the regulations of the Federal Communications Commission (47 CFR Ch. 1).

(b) If any violations of regulations enforced by the Federal Communications Commission are noted by the marine inspector, the owner and that agency shall be notified. A proper certificate issued by the Federal Communications Commission shall be regarded as evidence that the radio installation, if any, is in compliance with the requirements of that agency.

(c) All vessels on an international voyages which are required to carry a radiotelegraph or radiotelephone installation in accordance with Chapter IV of the Safety of Life at Sea Convention, 1960, must carry the International Code of Signals.

[CG FR 60-54, 25 FR 9346, Sept. 29, 1960, as amended by CGD 75-074, 42 FR 5964, Jan. 31, 1977]

Subpart 184.30—Emergency Lighting

§ 184.30-1 Portable lights.

(a) Vessels shall be equipped with a suitable number of portable battery lights.

[CGFR 63-40, 28 FR 9742, Sept. 6, 1963]

§ 184.30-5 Lights for lounge areas below the main deck.

(a) Adequate emergency lighting automatically actuated upon failure of the main lighting system shall be fitted along the line of escape in vessels having lounge areas below the main deck as per Subpart 177.30-7 of this subchapter.

(b) Vessels not equipped with a single source emergency lighting system shall have individual storage battery powered automatically operated lights in strategic locations. These lights shall have an automatic battery charger, shall not be readily portable, and shall have sufficient capacity for 6 hours continuous operation.

[CGFR 63-40, 28 FR 9742, Sept. 6, 1963]

Subpart 184.35—Engine Control

§ 184.35-1 Engineroom communication system.

(a) An efficient communication system shall be provided between the principal steering station and the engineroom on vessels which are not equipped with pilothouse controls where in the opinion of the Officer in Charge, Marine Inspection, such a system is necessary for proper operation of the vessel.

Subpart 184.40—Work Vests

§ 184.40-1 Approved unicellular plastic foam work vests.

(a) Buoyant work vests carried under the permissive authority of this subpart shall be of a Coast Guard approved type.

(b) Specifications for approved type work vests are in Subpart 160.053 of Subchapter Q—Specifications, of this chapter.

(R.S. 4488, as amended, 4491, as amended; 46 U.S.C. 481, 489)

[CGFR 60-54, 25 FR Sept. 25, 1960, as amended by CGFR 67-91, 32 FR 20813, Dec. 27, 1967]

§ 184.40-5 Use.

(a) Approved buoyant work vests are considered to be items of safety apparel and may be carried aboard vessels to be worn by crew members when working near or over the water under favorable working conditions. They shall be used under the supervision and control of a responsible person. When carried, such vests shall not be accepted in lieu of any portion of the required number of approved life preservers and shall not be substituted for the approved life preservers required to be worn during drills and emergencies.

§ 184.40-10 Stowage.

(a) The approved buoyant work vests shall be stowed separately from the regular stowage of approved life preservers.

(b) The locations for the stowage of work vests shall be such as not to be easily confused with that for approved life preservers.

§ 184.40-15 Inspections.

(a) Each work vest shall be subject to examination by a marine inspector to determine its serviceability. If found to be satisfactory, it may be continued in service, but shall not be stamped by a marine inspector with a Coast Guard stamp. If a work vest is found not to be in a serviceable condition, then such work vest shall be removed from the vessel. If a work vest is beyond repair, it shall be destroyed or mutilated in the presence of a marine inspector so as to prevent its continued use as a work vest.

PART 185—OPERATIONS

Subpart 185.01—Application and Intent

Sec.
185.01-1 Application.
185.01-5 Intent.

Subpart 185.05—Penalties

185.05-1 General.

Subpart 185.10—Exhibition of License

185.10-1 Operator's license.

Subpart 185.15—Notice of Marine Casualty and Voyage Records

185.15-1 Notice of casualty.
185.15-5 Substance of marine casualty notice.
185.15-10 Report by officer in charge of vessel in person.
185.15-15 Voyage records, retention of.
185.15-20 Report of accident to aid to navigation.
185.15-25 Reports when state of war exists.

Subpart 185.17—Reckless or Negligent Operation

Sec.
185.17-1 Prohibited by law.

Subpart 185.19—Accident Assistance

185.19-1 Duty of operator.

Subpart 185.20—Miscellaneous Operating Requirements

185.20-1 Compliance with provisions of certificate of inspection.
185.20-5 Rules of the Road.
185.20-10 Steering gear tests.
185.20-15 Hatches.
185.20-20 Vessels carrying vehicles.
185.20-25 Fueling of vessels using fuel having a flash point of 110° F., or lower (gasoline, etc.).
185.20-30 Use of auto pilot.
185.20-35 Charts and nautical publications.

Subpart 185.22—Patrolmen

185.22-1 Duties.

Subpart 185.25—Preparations for Emergencies

185.25-1 Emergency instructions.
185.25-5 Recommended emergency check-off lists.
185.25-7 Posting placards containing instructions for launching and inflating inflatable liferafts.
185.25-10 Drills.
185.25-15 Operator's responsibilities.
185.25-20 Tests of emergency position indicating radiobeacon (EPIRB).

Subpart 185.30—Markings Required

185.30-1 Hull markings.
185.30-5 Lifesaving gear.
185.30-10 Life preserver stowage.
185.30-15 Escape hatches and emergency exits.
185.30-20 Fuel shutoff valves.
185.30-25 Watertight doors and watertight hatches.
185.30-30 Emergency position indicating radiobeacon (EPIRB).

AUTHORITY: R.S. 4405, as amended, 4462, as amended, sec. 3, 70 Stat. 152, sec. 6(b)(1), 80 Stat. 938; 46 U.S.C. 375, 416, 390(b), 49 U.S.C. 1655(b); 49 CFR 1.4(a)(2), unless otherwise noted. Interpret or apply R.S. 4417, as amended, 4418, as amended, 4426, as amended, 4453, as amended; 46 U.S.C. 391, 392, 404, 435.

SOURCE: CGFR 60-54, 25 FR 9347, Sept. 29, 1960, unless otherwise noted.

Subpart 185.01—Application and Intent

§ 185.01-1 Application.

(a) The provisions of this part shall apply to all vessels except as specifically noted in this part.

§ 185.01-5 Intent.

(a) The intent of this part is to insure that all vessels be operated in accordance with applicable laws and regulations and in such a manner as to afford adequate precaution against hazards of an emergency nature which might endanger the vessel and the persons being transported.

Subpart 185.05—Penalties

§ 185.05-1 General.

(a) The marine safety and criminal statutes provide penalties for the violation of the applicable provisions of this subchapter, which penalties, depending upon the gravity of the violation, are as follows:

(1) Assessment and collections of civil monetary penalty.

(2) Criminal prosecution where no loss of life results.

(3) Criminal prosecution for manslaughter where loss of life results from violation of statute or regulation, or from misconduct, negligence, or inattention to duty.

(4) Libel against vessel.

(b) In addition to the foregoing, any licensed or certificated personnel committing an act of misbehavior, negligence, unskillfulness, endangering life, willful violation of marine safety statutes or regulations or requirements thereunder, and incompetency shall be subject to proceedings under the provisions of R.S. 4450, as amended (46 U.S.C. 239), and regulations thereunder (Part 137 of this chapter) with respect to suspension or revocation of license or certificate.

[CGFR 60-54, 25 FR 9347, Sept. 29, 1960, as amended by CGFR 65-9, 30 FR 11495, Sept. 8, 1965]

Subpart 185.10—Exhibition of License

§ 185.10-1 Operator's license.

(a) The operator of any vessel subject to the regulations in this subchapter shall have his license as operator in his possession and available for examination at all times when the vessel is being operated.

Subpart 185.15—Notice of Marine Casualty and Voyage Records

AUTHORITY: Sec. 10, 18 Stat. 128 (13 U.S.C. 361); R.S. 4450, as amended (46 U.S.C. 239); R.S. 4405 (46 U.S.C. 375); 80 Stat. 938 (49 U.S.C. 1655(b)(1)); 49 CFR 1.46(b).

SOURCE: CGD 76-170, 45 FR 77444, Nov. 24, 1980, unless otherwise noted.

§ 185.15-1 Notice of casualty.

The owner, agent, master or person in charge of a vessel involved in a marine casualty shall give notice as soon as possible to the nearest Coast Guard Marine Safety or Marine Inspection Office whenever the casualty involves any of the following:

(a) All accidental groundings and any intentional grounding which also meets any of the other reporting criteria or creates a hazard to navigation, the environment, or the safety of the vessel;

(b) Loss of main propulsion or primary steering, or any associated component or control system, the loss of which causes a reduction of the maneuvering capabilities of the vessel. Loss means that systems, component parts, sub-systems, or control systems do not perform the specified or required function;

(c) An occurrence materially and adversely affecting the vessel's seaworthiness of fitness for service or route, including but not limited to fire, flooding, or failure or damage to fixed fire extinguishing systems, lifesaving equipment, auxiliary power generating equipment, or bilge pumping systems;

(d) Loss of life;

(e) Injury causing a person to remain incapacitated for a period in excess of 72 hours;

(f) An occurrence not meeting any of the above criteria but resulting in damage to property in excess of $25,000.00. Damage includes the cost necessary to restore the property to the service condition which existed prior to the casualty, including the cost of salvage, gas freeing, and dry dock. It does not include such items as demurrage.

§ 185.15-5 Substance of marine casualty notice.

The notice required in § 185.15-1 must include the name and official number of the vessel involved, the name of the vessel's owner or agent, the nature and circumstances of the casualty, the locality in which it occurred, the nature and extent of injury to persons, and the damage to property.

§ 185.15-10 Report by officer in charge of vessel in person.

(a) In addition to the notice required by § 185.15-1, the person in charge of the vessel shall, as soon as possible, report in writing and in person to the Officer in Charge, Marine Inspection, at the port in which the casualty occurred or nearest the port of first arrival: *Provided,* That when due to distance it may be inconvenient to report in person, it may be done in writing only. The written report for personnel accident shall be made on form CG-924E and shall be submitted for each individual injured and for each loss of life. For all other vessel casualties the written report shall be made on form CG-2692.

(b) If filed without delay, the forms CG-924E or CG-2692 may also provide the notice required by § 185.15-1.

§ 185.15-15 Voyage records, retention of.

(a) The owner, agent, master, or person in charge of any vessel involved in a marine casualty shall retain such voyage records as are maintained by the vessel, such as both rough and smooth deck and engine room logs, bell books, navigation charts, navigation work books, compass deviation cards, gyro records, stowage plans, records of draft, aids to mariners, night order books, radiograms sent and received, radio logs, crew and passenger lists, articles of shipment, official logs and other material which might be of assistance in investigating and determining the cause of the casualty. The owner, agent, master, other officer, or person responsible for the custody thereof, shall make these records available upon request, to a duly authorized investigating officer, administrative law judge, officer or employee of the Coast Guard.

§ 185.15-20 Report of accident to aid to navigation.

Whenever a vessel collides with a lightship, buoy, or other aid to navigation under the jurisdiction of the Coast Guard, or is connected with any such collision, it shall be the duty of the person in charge of such vessel to report the accident to the nearest Officer in Charge, Marine Inspection. No report on Form CG 2692 is required unless one or more of the results listed in § 185.15-1 occurs.

§ 185.15-25 Reports when state of war exists.

During the period when a state of war exists between the United States and any foreign nation, communications in regard to casualties or accidents shall be handled with caution and the reports shall not be made by radio or by telegram.

Subpart 185.17—Reckless or Negligent Operation

§ 185.17-1 Prohibited by law.

(a) Subsection 13(a) of the Act of April 25, 1940, as amended (46 U.S.C. 526*l*), applies to all vessels inspected under this subchapter and reads as follows:

> No person shall operate any motorboat or any vessel in a reckless or negligent manner so as to endanger the life, limb, or property of any person. To "operate" means to navigate or otherwise use a motorboat or a vessel.

(Sec. 17, 54 Stat. 166, as amended; 46 U.S.C. 526p)

Subpart 185.19—Accident Assistance

§ 185.19-1 Duty of operator.

(a) Subsection 13(b) of the Act of April 25, 1940, as amended (46 U.S.C.

526*l*), applies to all vessels inspected under this subchapter and reads as follows:

> In the case of collision, accident, or other casualty involving a motorboat or other vessel subject to this Act, it shall be the duty of the operator, if and so far as he can do so without serious danger to his own vessel, or persons aboard, to render such assistance as may be practicable and necessary to other persons affected by the collision, accident, or casualty in order to save them from danger caused by the collision, accident, or casualty. He shall also give his name, address, and identification of his vessel to any person injured and to the owner of any property damaged. The duties imposed by this subsection shall be in addition to any duties otherwise provided by law.

(Sec. 17, 54 Stat. 166, as amended; 46 U.S.C. 526p)

Subpart 185.20—Miscellaneous Operating Requirements

§ 185.20-1 Compliance with provisions of certificate of inspection.

(a) It shall be the duty of the person in charge of the vessel to see that all of the provisions of the certificate of inspection are strictly adhered to. Nothing in this subpart shall be construed as limiting the person in charge, at his own responsibility, from diverting from the route prescribed in the certificate of inspection or taking such other steps as he deems necessary and prudent to assist vessels in distress or for other similar emergencies.

(R.S. 4421, as amended, 4463, as amended, 4464, as amended, sec. 26, 41 Stat. 998, as amended, sec. 17, 54 Stat. 166, as amended; 46 U.S.C. 399, 222, 451, 882, 526p. Treasury Department Order 120, July 31, 1950, 15 FR 6521)

§ 185.20-5 Rules of the Road.

(a) Persons operating these vessels shall comply with the applicable sections of the Rules of the Road covering the waters on which the vessel is navigated.

§ 185.20-10 Steering gear tests.

(a) Every vessel before getting underway, for its day's operation shall have its steering gear, signaling whistle, controls or communication system tested by the operator.

§ 185.20-15 Hatches.

(a) It shall be the duty of the person in charge of any vessel to assure himself before getting underway, for a voyage on unprotected waters, that all exposed hatches are properly secured.

§ 185.20-20 Vessels carrying vehicles.

(a) Automobiles or other vehicles shall be stowed in such a manner as to permit both passengers and operators to get out and away from them freely in the event of fire or other disaster. The decks, where necessary, shall be definitely marked with painted lines to indicate the vehicle runways and the aisle spaces.

(b) The person in charge shall take any necessary precautions to see that automobiles or other vehicles have their motors turned off and their emergency brakes set when the vessel is underway, and the motors shall not be started until the vessel is secured to the landing. In addition, the vehicles at each end shall have their wheels securely blocked, while the vessel is being navigated.

(c) The person in charge shall have appropriate "NO SMOKING" signs posted and shall take all necessary precautions to prevent smoking or carrying of lighted or smoldering cigars, cigarettes, etc., in the deck area assigned to automobiles or other vehicles.

§ 185.20-25 Fueling of vessels using fuel having a flash point of 110° F., or lower (gasoline, etc.).

(a) Vessels using fuel having a flash point of 110° F., or lower, shall not take on fuel when passengers are on board.

§ 185.20-30 Use of auto pilot.

Except as provided in 33 CFR 164.15, when the automatic pilot is used in—

(a) Areas of high traffic density;

(b) Conditions of restricted visibility; and

(c) All other hazardous navigational situations, the operator shall ensure that—

(1) It is possible to immediately establish manual control of the ship's steering;

(2) That a competent person is ready at all times to take over steering control; and

(3) The changeover from automatic to manual steering and vice versa is made by, or under, the supervision of the operator.

[CGD 75-074, 42 FR 5964, Jan. 31, 1977]

§ 185.20-35 Charts and nautical publications.

As appropriate for the intended voyage, all vessels must carry adequate and up-to-date—

(a) Charts;

(b) Sailing directions;

(c) Coast pilots;

(d) Light lists;

(e) Notices to mariners;

(f) Tide tables;

(g) Current tables; and

(h) All other nautical publications necessary.[1]

[CGD 75-074, 42 FR 5964, Jan. 31, 1977]

Subpart 185.22—Patrolmen

§ 185.22-1 Duties.

(a) At all times during which bunks in passenger lounge areas located below the main deck may be occupied (whether or not the vessel is underway), a member of the vessel's crew shall be designated by the operator in charge of the vessel as a roving patrolman.

(b) It shall be the duty of the roving patrolman to frequently visit such lounge areas to insure that safe conditions are being maintained.

(R.S. 4488, as amended; 46 U.S.C. 481)

[CGFR 63-40, 28 FR 9742, Sept. 6, 1963, as amended by CGFR 68-32, 33 FR 5727, Apr. 12, 1968]

Subpart 185.25—Preparations for Emergencies

§ 185.25-1 Emergency instructions.

(a) Except as otherwise provided in this section, it shall be the duty of the operator in charge of any vessel subject to the regulations in this subchapter to prepare and post emergency checkoff lists in a conspicuous place accessible to crew and passengers.

(b) Except where all or a part of the emergency instructions are deemed unnecessary by the Officer in Charge, Marine Inspection, the emergency checkoff list shall contain not less than the applicable portions of the "Recommended Emergency Checkoff List, § 185.25-5.

(c) When in the judgment of the cognizant Officer in Charge, Marine Inspection, the operation of any vessel subject to this section does not present the hazards listed on the emergency checkoff list or when any vessel has no suitable mounting surface, an exclusion from the requirements of § 185.25-1 (a) and (b) is granted by letter.

(d) *Safety orientation.* Before getting underway, the operator in charge of each vessel subject to this subpart shall ensure that suitable public announcements, instructive placards or both are provided in a manner which affords all passengers the opportunity to become acquainted with:

(1) Stowage location of life preservers;

(2) Proper method of donning and adjusting life preservers of the type(s) carried on the vessel;

(3) The type and location of all lifesaving devices carried on the vessel; and

(4) The location and contents of the "Emergency Checkoff List" required by § 185.25-5.

[46 USC 390b, 49 USC 1655(b)(1), 49 CFR 1.46(b))

[CGFR 60-54, 25 FR 9347, Sept. 29, 1960, as amended by CGD 78-009, 45 FR 11110, Feb. 19, 1980; 45 FR 13736, Mar. 3, 1980]

§ 185.25-5 Recommended emergency checkoff lists.

(a) *Rough weather at sea or crossing hazardous bars.* (1) Close all watertight and weathertight doors, hatches, and airports to prevent taking water aboard.

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[1] For United States vessels in or on the navigable waters of the United States, see 33 CFR 164.33.

(2) Keep bilges dry to prevent loss of stability due to water in bilges.

(3) Keep passengers seated and evenly distributed.

(4) Have passengers put on life preservers if the going becomes very rough or you are about to cross a hazardous bar.

(5) Never abandon a vessel (particularly a wooden boat) unless actually forced to do so.

(6) If assistance is needed use the International Distress call over radiotelephone or call the Coast Guard immediately.

(7) Prepare life floats for launching.

(b) *Man overboard.* (1) Throw a ring buoy overboard as close to the person as possible.

(2) Post a lookout to keep the person overboard in sight.

(3) Maneuver the vessel to pick up the person in the water.

(4) Have crew member put on lifejacket, attach a safety line to him and have him standby to jump into the water to assist the person overboard if necessary.

(5) If person is not immediately located notify Coast Guard and other vessels in vicinity by radiotelephone.

(6) Continue search until released by Coast Guard.

(c) *Fire at sea.* (1) Cut off air supply to fire—close hatches, ports, doors, and ventilators, etc.

(2) Immediately use portable fire extinguishers at base of flames for inflammable liquid or grease fires or water for fires in ordinary combustible materials.

(3) If fire is in machinery spaces shut off fuel supply and ventilation and discharge fixed CO_2 if installed.

(4) Maneuver vessel to minimize effect of wind on fire.

(5) If unable to control fire, immediately notify the Coast Guard and other boats in the vicinity by radiotelephone, etc.

(6) Move passengers away from fire, have them put on life preservers, and if necessary, prepare to abandon ship.

§ 185.25-7 Posting placards containing instructions for launching and inflating inflatable liferafts.

(a) Every vessel equipped with inflatable liferafts shall have posted in conspicuous places which are regularly accessible to the crew and/or passengers, approved placards containing instructions for launching and inflating inflatable liferafts for the information of persons on board. The number and location of such placards for a particular vessel shall be as determined necessary by the Officer in Charge, Marine Inspection.

(b) Under the requirements contained in § 160.051-6(c)(1) of Subpart 160.051 in Subchapter Q (Specifications) of this chapter, the manufacturer of approved inflatable liferafts is required to provide approved placards containing such instructions with each liferaft.

[CGFR 65-9, 30 FR 11495, Sept. 8, 1965]

§ 185.25-10 Drills.

(a) The person in charge shall conduct such drills and give such instructions as are necessary to insure that all hands are familiar with their duties.

§ 185.25-15 Operator's responsibilities.

(a) Nothing in the recommended emergency instructions in this subpart shall exempt any operator from the exercise of good judgment in any emergency situation.

§ 185.25-20 Tests of emergency position indicating radiobeacon (EPIRB).

The licensed operator of the vessel shall ensure that—

(a) The EPIRB required in 180.40-1 of this subchapter is tested monthly, using the integrated test circuit and output indicator, to determine that it is operative; and

(b) The EPIRB's battery is replaced after the EPIRB is used and before the date required by FCC regulations in 47 CFR Part 83 to be marked on the outside of the EPIRB.

(R.S. 4488, as amended (46 U.S.C. 481); 49 CFR 1.4(b)(1)(ii) and 1.46(b))

[CGD 73-24R, 39 FR 10140, Mar. 18, 1974]

Subpart 185.30—Markings Required

§ 185.30-1 Hull markings.

Vessels shall be marked as required by Parts 67 and 69 of this chapter.

[CGD 72-104R, 37 FR 14233, July 18, 1972; 37 FR 18537, Sept. 13, 1972]

§ 185.30-5 Lifesaving gear.

(a) Life floats and buoyant apparatus, together with their oars and paddles, shall be conspicuously marked with the vessel's name.

(b) The number of persons allowed on each life float and buoyant apparatus shall be conspicuously marked or painted thereon in letters and numbers at least 1½ inches high.

(c) All life preservers and ring life buoys shall be marked with the vessel's name.

(d) Any lifeboat, life raft, or other suitable boat accepted as primary lifesaving apparatus shall be marked with its allowed capacity in persons, and with the name of the vessel on which installed, in letters and figures at least 2 inches high, except that inflatable life rafts shall be marked by the manufacturer or service facility as required by Subpart 160.051 of Subchapter Q-Specifications, of this chapter and no additional markings are required.

(R.S. 4426, as amended, 4488, as amended, 4491, as amended; 46 U.S.C. 404, 481, 489)

§ 185.30-10 Life preserver stowage.

(a) Where life preservers are stowed so that they are not readily visible to passengers, the containers in which they are stowed shall be marked "Life Preservers" and with the number contained therein, in at least 1-inch letters and figures. This legend shall indicate the separate stowage of children's life preservers.

(R.S. 4488, as amended; 46 U.S.C. 481)

§ 185.30-15 Escape hatches and emergency exits.

(a) All escape hatches and other emergency exits shall be marked on both sides using at least 1-inch letters: "Emergency Exit, Keep Clear", unless such markings are deemed unnecessary by the Officer in Charge, Marine Inspection.

§ 185.30-20 Fuel shutoff valves.

(a) Remote fuel shutoff stations shall be marked in at least 1-inch letters indicating purpose of the valve and direction of operation.

§ 185.30-25 Watertight doors and watertight hatches.

(a) Watertight doors and watertight hatches shall be marked on both sides in at least 1-inch letters: "Watertight Door—Close in Emergency" or "Watertight Hatch—Close in Emergency", unless such markings are deemed unnecessary by the Officer in Charge, Marine Inspection.

§ 185.30-30 Emergency position indicating radiobeacon (EPIRB).

The EPIRB required in § 180.40-1 of this subchapter must be marked with the vessel's name.

(R.S. 4488, as amended (46 U.S.C. 481); 49 CFR 1.4(b)(1)(ii) and 1.46(b))

[CGD 73-24R, 39 FR 10140, Mar. 18, 1974]

PART 186—MANNING

Subpart 186.01—Application and Intent

Sec.
186.01-1 Application.
186.01-5 Intent.

Subpart 186.05—General

186.05-1 Manning requirements.
186.05-5 Manning entries on certificate of inspection.

Subpart 186.10—Licenses

186.10-1 Licenses required.

AUTHORITY: Sec. 3, 70 Stat. 152, sec. 6(b)(1), 80 Stat. 938; 46 U.S.C. 390b, 49 U.S.C. 1655(b); 49 CFR 1.4(a)(2), unless otherwise noted.

SOURCE: CGFR 60-54, 25 FR 9348, Sept. 29, 1960, unless otherwise noted.

Subpart 186.01—Application and Intent

§ 186.01-1 Application.

(a) The provisions of this part shall apply to all vessels.

(R.S. 4426, as amended, 4463, as amended, sec. 2, 38 Stat. 1164, as amended; 46 U.S.C. 404, 222, 673)

§ 186.01-5 Intent.

(a) The intent of this part is to insure that each vessel has sufficient crew and licensed operators for the proper navigation and operation of the vessel. Due regard shall be given to the need for protection of the vessel and passengers during emergencies.

Subpart 186.05—General

§ 186.05-1 Manning requirements.

(a) No vessel subject to the provisions of the regulations in this subchapter shall be navigated while her certificate of inspection is in effect unless she shall have in her service and on board such complement of licensed personnel, and crew, as may, in the judgment of the Officer in Charge, Marine Inspection, be necessary for her safe operation.

(R.S. 4426, as amended, 4463, as amended, sec. 2, 38 Stat. 1164, as amended; 46 U.S.C. 404, 222, 673)

§ 186.05-5 Manning entries on certificate of inspection.

(a) The Officer in Charge, Marine Inspection, shall make entries on the certificate of inspection showing the complement of licensed personnel and crew required.

(R.S. 4463, as amended; 46 U.S.C. 222)

Subpart 186.10—Licenses

§ 186.10-1 Licenses required.

(a) Except as otherwise provided in this section, the licensed operators required for the operation of all vessels shall be in possession of ocean operator's licenses or operator's licenses attesting to their proficiency for the route and class of vessel being navigated.

(b) A license as master, chief mate, second mate or third mate of ocean and coastwise inspected vessels, or a license as a master or pilot of inspected vessels on other than ocean and coastwise waters, will authorize the holder to serve as operator of vessels subject to the regulations in the subchapter for the class of vessel and on the waters for which such license was issued and within such other restrictions as may be stated on the license.

(c) (1) A license which authorizes the holder to serve as an operator of a mechanically propelled vessel subject to the regulations in this subchapter will also authorize the holder to serve as operator of a non-self-propelled vessel subject to such regulations under the same conditions as if the vessel were mechanically propelled.

(2) A license which authorizes the holder to serve as an operator of a sail vessel subject to the regulations in this subchapter will also authorize the holder to serve as operator of a non-self-propelled vessel subject to such regulations under the same conditions as if the vessel were sail propelled.

(3) A license which authorizes the holder to serve as an operator of an auxiliary sail vessel subject to the regulations in this subchapter will also authorize the holder to serve as operator of a mechanically propelled vessel, a sail vessel, and a non-self-propelled vessel subject to such regulations under the same conditions as if the vessel were an auxiliary sail vessel.

(R.S. 4426, as amended, 4463, as amended, secs. 7, 17, 54 Stat. 165, as amended, 166, as amended; 46 U.S.C. 404, 222, 526f, 526p)

(d) Operation of vessels by licensed personnel on routes and in capacities lower than those described on the license held will be permitted as provided in Table 186.10-1(d) without obtaining additional license for the lower route or capacity.

TABLE 186.10-1(d)

Type license held	Route described on license	Capacity and routes permitted
Ocean Operator, Master[1] or Mate.	Oceans or coastwise	Can serve as ocean operator on the specific route described on license, and as operator on Great Lakes, lakes, bays and sounds, and rivers.
Operator or Master[1]	Waters other than ocean or coastwise.	Can serve as operator on Great Lakes, lakes, bays and sounds, and rivers.
Do	Great Lakes	Can serve as operator on the specific route described on license, and on lakes, bays and sounds, and rivers.
Do	Lakes, bays, and sounds	Can serve as operator on specific route described on license, and on rivers.
Do	Rivers	Can serve as operator on the specific route described on license.
Do	Specific bodies of water	Can serve as operator only on the specific waters described.
Pilot	Specific bodies of water	Can serve as operator on the Great Lakes, lakes, bays and sounds, and rivers.

[1] Only those licenses which authorize service on inspected passenger vessels may be substituted for an operator's license or ocean operator's license.

(R.S. 4405, as amended, 4426 as amended, 4438, as amended, 4462, as amended, sec. 17, 54 Stat. 166, as amended; 46 U.S.C. 375, 404, 224, 416, 526p)

[CGFR 60-54, 25 FR 9348, Sept. 29, 1960, as amended by CGFR 68-32, 33 FR 5727, Apr. 12, 1968]

PART 187—LICENSING

Subpart 187.01—General

Sec.

187.01-1 Application.

Subpart 187.05—General Requirements

187.05-1 Issuance of licenses.
187.05-5 Sea service as member of Armed Forces of the United States and on vessels owned by the United States as qualifying experience.
187.05-10 Lifting of limitations.
187.05-15 Re-examinations and refusal of licenses.
187.05-20 Issuance of duplicate licenses.
187.05-25 Parting with license.
187.05-30 Suspension and revocation of license.
187.05-35 Right of appeal.

Subpart 187.10-Original License

187.10-1 Original license defined.
187.10-5 Requirements for original licenses.
187.10-10 Written application.
187.10-15 Physical examination.
187.10-20 Experience or training.
187.10-25 Professional examination.
187.10-30 Character check and references.

Subpart 187.15—Renewal of Licenses

Sec.

187.15-1 Requirements for renewal of license.
187.15-5 Application for renewal.
187.15-10 Fitness.
187.15-15 Period of grace.
187.15-20 Physical requirements.
187.15-25 Reissue of expired license.

Subpart 187.20—Specific Requirements for Operators on Other Than Ocean and Coastwise Waters

187.20-1 General application.
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187.20-10 Examination for operators of mechanically propelled vessels.
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187.20-17 Examination for operators of auxiliary sailing vessels.
187.20-20 Examination for barge operators.

Subpart 187.25—Specific Requirements for Ocean Operators

187.25-1 General application.
187.25-5 Service requirements, mechanically propelled vessels.
187.25-10 Service requirements, sail propelled vessels.
187.25-11 Service requirements, auxiliary sailing vessel.
187.25-12 Service requirements, non-self-propelled vessels.
187.25-15 Examination for operator of ocean mechanically propelled vessels.
187.25-20 Examination for operator of ocean sail propelled vessels.
187.25-21 Examination for operator of auxiliary sailing vessels in ocean service.
187.25-22 Examination for operator of ocean non-self-propelled vessels.
187.25-25 Additional routes.

28	8	10	12	8	10	10	8	8	10	35	35.00	90	70	70	70	60	70	45	50
30	8	10	10	8	10	10	8	8	10	40	37.50	90	100	80	70	60	70	45	50
32	8	10	10	8	10	10	7	8	8	40	40.00	100	100	80	70	70	70	50	50
34	8	10	10	7	8	10	7	8	8	45	42.50	110	100	90	70	70	70	60	70
36	8	10	10	7	8	10	6	8	8	45	45.00	110	100	90	100	80	100	60	70
38	7	10	10	7	8	8	6	7	8	50	47.50	125	100	100	100	80	100	60	70
40	7	8	10	6	8	8	5	7	8	50	50.00	125	100	100	100	80	100	60	70
42	7	8	10	6	8	8	5	6	7	50	52.50	125	125	110	100	90	100	70	70
44	6	8	8	6	8	8	5	6	7	60	55.00	125	125	110	100	90	100	70	70
46	6	8	8	5	7	8	4	6	6	60	57.50	150	125	125	100	100	100	70	70
48	6	8	8	5	7	8	4	6	6	60	60.00	150	125	125	100	100	100	80	100
50	6	8	8	5	7	7	4	5	6	60	62.50	150	125	125	100	100	100	80	100
52	5	8	8	4	6	7	4	5	6	70	65.00	175	150	150	125	110	125	80	100
54	5	7	8	4	6	7	3	5	5	70	67.50	175	150	150	125	110	125	90	100
56	5	7	8	4	6	7	3	5	5	70	70.00	175	150	150	125	125	125	90	100
58	4	7	8	4	6	6	3	4	5	70	72.50	175	150	150	125	125	125	90	100
60	4	6	7	3	5	6	3	4	5	80	75.00	200	150	150	125	125	125	90	100
62	4	6	7	3	5	6	2	4	5	80	77.50	200	175	175	125	125	125	100	100
64	4	6	7	3	5	6	2	4	4	80	80.00	200	175	175	150	150	150	100	100
66	4	6	6	3	5	5	2	3	4	80	82.50	200	175	175	150	150	150	100	100
68	4	6	6	3	5	5	2	3	4	90	85.00	225	175	175	150	150	150	110	125
70	3	5	6	2	4	5	1	3	4	90	87.50	225	175	175	150	150	150	110	125
72	3	5	6	2	4	5	1	3	3	90	90.00	225	200	200	150	150	150	110	125
74	3	5	6	2	4	5	1	2	3	100	92.50	225	200	200	150	150	150	125	125
76	3	5	6	2	4	5	1	2	3	100	95.00	250	200	200	175	175	175	125	125
78	3	5	5	1	3	4	1	2	3	100	97.50	250	200	200	175	175	175	125	125
80	2	4	5	1	3	4	0	2	3	100	100.00	250	200	200	175	175	175	125	125
82	2	4	5	1	3	4	0	2	2	110	102.5	250	225	225	175	175	175	125	125
84	2	4	5	1	3	4	0	2	2	110	105.0	250	225	225	175	175	175	150	150
86	2	4	5	1	3	4	0	1	2	110	107.5	300	225	225	175	175	175	150	150
88	2	4	5	1	3	3	0	1	2	110	110.0	300	225	225	200	200	200	150	150
90	2	4	4	0	2	3	0	1	2	110	112.5	300	225	225	200	200	200	150	150
92	2	3	4	0	2	3	00	1	2	125	115.0	300	250	250	200	200	200	150	150
94	1	3	4	0	2	3	00	1	2	125	117.5	300	250	250	200	200	200	150	150
96	1	3	4	0	2	3	00	1	1	125	120.0	300	250	250	200	200	200	150	150
98	1	3	4	0	2	3	00	1	1	125	122.5	300	250	250	200	200	200	150	150
100	1	3	4	0	2	2	00	0	1	125	125.0	300	250	250	200	200	200	150	150

[1] For running protection of motors 1 horsepower or less, see § 183.10-40(b)(2).

Subpart 187.30—Action Against Licenses

Sec.
187.30-1 General application.

AUTHORITY: Secs. 7, 17, 54 Stat. 165, as amended, 166, as amended, sec. 8, 70 Stat. 152, sec. 6(b)(1), 80 Stat. 938; 46 U.S.C. 526f, 526p, 390b, 49 U.S.C. 1655(b); 49 CFR 1.4(a)(2), unless otherwise noted. Interpret or apply R.S. 4417a, as amended, 4426, as amended; 46 U.S.C. 391a, 404.

SOURCE: CGFR 60-54, 25 FR 9349, Sept. 29, 1960, unless otherwise noted.

Subpart 187.01—General

§ 187.01-1 Application.

(a) The regulations in this part apply to all applicants for license to operate:

(1) Mechanically propelled vessels, of less than 100 gross tons, carrying more than six passengers; and,

(2) Sail vessels or non-self-propelled vessels, of less than 100 gross tons, carrying more than six passengers.

Subpart 187.05—General Requirements

§ 187.05-1 Issuance of licenses.

(a) Applicants for licenses are charged with the duty of establishing to the satisfaction of the Coast Guard that they possess all of the qualifications necessary before they shall be entitled to be issued licenses. Until an applicant meets this mandatory requirement, he is not entitled to be licensed to serve as an operator on a vessel of the United States. Without prior approval of the Commandant no person who has been convicted by court-martial of desertion or treason in time of war, or has lost his nationality for any of the other reasons listed in 8 U.S.C. 1481, is eligible for a license. Neither is a person eligible for a license, who has been convicted by a court of record of a violation of the narcotic drug laws of the United States, the District of Columbia, or any State or territory of the United States, within 10 years prior to the date of filing the application; or who, unless he furnishes satisfactory evidence that he is cured, has ever been the user of or addicted to the use of a narcotic drug.

(b) After application to an Officer in Charge, Marine Inspection, any person who is found qualified under the requirements set forth in this part shall be issued an appropriate license valid for a term of five (5) years. A limitation commensurate with the experience of the applicant shall be placed upon the license.

(c) Every person to whom a license is issued shall place his signature and left thumb print thereon, and upon any sheets attached for additional endorsements.

(d) An applicant for an operator's license shall swear to the truth of the statements on his application.

(e) Every person who receives a license shall make oath before an Officer in Charge, Marine Inspection, or commissioned officer of the Coast Guard authorized to administer oaths under 50 U.S.C. 732, to be recorded upon his official file, that he will faithfully and honestly according to his best skill and judgment, without concealment or reservation, perform all the duties required of him by law.

(f) An applicant for an operator's license must demonstrate his ability to speak, read and understand English as found in the Rules of the Road, aids to navigation publications, emergency equipment instructions and machinery instructions.

(1) An applicant for an operator's license to operate vessels on the navigable waters of the United States in the vicinity of Puerto Rico, who speaks Spanish only, will be issued a license restricted to those waters.

(g) Every person, when receiving a license as "operator" or "ocean operator" of small passenger-carrying vessels, at his request shall be furnished with a copy of the publication "Rules and Regulations for Small Passenger Vessels," and a copy of the "Rules of the Road" applicable to the waters for which the license is issued.

§ 187.05-5 Sea service as member of Armed Forces of the United States and on vessels owned by the United States as qualifying experience.

(a) Sea service as member of the Armed Forces of the United States will be accepted as qualifying experience for an original or extension of route of license. The applicant shall submit an official transcript of sea service as verification of the service claimed when he submits an application. Such service will be subject to evaluation by the Officer in Charge, Marine Inspection, to determine its equivalence to the sea service required on passenger motorboats, and to determine the appropriate class and limit of license for which the applicant is eligible.

(b) When any person who has served in a civilian capacity as commanding officer or master of any vessel owned and operated by the United States, in any service, in which a license as master was not required at the time of such service applies for an examination for license, the Officer in Charge, Marine Inspection, shall determine the appropriate operator's license for which the applicant is eligible.

[CGFR 60-54, 25 FR 9349, Sept. 29, 1960, as amended by CGFR 66-33, 31 FR 15300, Dec. 6, 1966]

§ 187.05-10 Lifting of limitations.

(a) If any Officer in Charge, Marine Inspection, is satisfied by the documentary evidence submitted that an applicant is entitled by experience and knowledge to an increase in the scope of his license, he may change any limitations which he may have previously placed upon the license.

(b) No Officer in Charge, Marine Inspection, may change on any license a limitation which he did not place thereon before full information regarding the reason for the limitation is obtained from the Officer in Charge, Marine Inspection, responsible for the same and the applicant has made up the deficiency.

§ 187.05-15 Re-examinations and refusal of licenses.

(a) Any applicant for license or endorsement who has been duly examined or re-examined and refused may come before the same Officer in Charge, Marine Inspection, for re-examination at any time thereafter that may be fixed by such Officer in Charge, Marine Inspection, but such time shall not be less than ten days from the date of the applicant's last failure.

(b) A candidate who has been duly examined and refused a license by an Officer in Charge, Marine Inspection, shall not be examined by any other Officer in Charge, Marine Inspection, until 1 year has elapsed from the date of the last refusal without the sanction of the Officer in Charge, Marine Inspection, that refused the applicant.

(c) If the Officer in Charge, Marine Inspection, refuses to grant an applicant the license applied for he shall furnish him a statement setting forth the cause of his refusal.

(46 U.S.C. 390b, 49 U.S.C. 1655(b), 49 CFR 1.46(b))

[CGFR 60-54, 25 FR 9349, Sept. 29, 1960, as amended by CGFR 62-52, 27 FR 12833, Dec. 28, 1962; CGD 79-063, 44 FR 72131, Dec. 13, 1979]

§ 187.05-20 Issuance of duplicate licenses.

(a) Whenever a person to whom a license has been issued loses his license, he shall report such loss to an Officer in Charge, Marine Inspection, who shall issue a duplicate license after receiving from such person a properly executed affidavit giving satisfactory evidence of such loss, and a record of the license from the marine inspection office where it was issued. Such license shall be issued as a duplicate by the addition of the following typewritten endorsement, "This license replaces License Number ——— issued at ——— on the above date" as well as the port and date of the duplicate issue. The duplicate license, issued for the unexpired term, shall have the same force and effect as the lost license.

(b) When a person reports the loss of his license or when it is discovered that any license or license form has been stolen from a marine inspection office or when such lost or stolen licenses are recovered, the Officer in Charge, Marine Inspection, shall immediately report the loss, theft, or recovery to the Commandant giving a description of the licenses and all facts incident to its loss, theft or recovery.

§ 187.05-25 Parting with license.

(a) If the holder of license as operator voluntarily parts with it or places it beyond his personal control by pledging or depositing it with any other person for any purpose, he may be proceeded against in accordance with the provisions of Revised Statute 4450, as amended (46 U.S.C. 239), looking to a suspension or revocation of his license.

§ 187.05-30 Suspension and revocation of license.

(a) When the license of any operator is revoked such license expires with such revocation and any license of the same type subsequently granted to such person shall be considered in the light of an original license except as to number of issue.

(b) No person whose license has been revoked shall be issued another license except upon approval of the Commandant. Neither shall a license be issued to a person whose license has been suspended, prior to the termination of the suspension, except on approval of the Commandant.

(c) When a license which is about to expire is suspended, the license may be administratively renewed in order to carry out the period of the suspension. However, prior to the reissuance of the license to the holder upon termination of the suspension he must qualify for the renewal of the license as provided in Subpart 187.15.

(R.S. 4450, as amended, 46 U.S.C. 239)

§ 187.05-35 Right of appeal.

(a) Whenever any person directly interested in or affected by any decision or action of any Officer in Charge, Marine Inspection, shall feel aggrieved by such decision or action with respect to the issuance of a license or a certificate, he may appeal therefrom to the Coast Guard District Commander having jurisdiction. A like appeal shall be allowed from any decision or action of the Coast Guard District Commander to the Commandant, whose action shall be final. Such appeals shall be made in writing within 30 days after the date of decision or action appealed from.

(b) Pending the determination of the appeal, the decision of the Officer in Charge, Marine Inspection, shall remain in effect.

Subpart 187.10—Original License

§ 187.10-1 Original license defined.

(a) The first license issued under the authority of the regulations in this part to any person shall be considered an original license.

§ 187.10-5 Requirements for original licenses.

(a) Before an original license is issued to any person to act in a licensed capacity on inspected vessels of the United States, he shall personally appear before an Officer in Charge, Marine Inspection, and present satisfactory documentary evidence of his eligibility in respect to the requirements for the type of operator's license for which he makes application.

§ 187.10-10 Written application.

(a) The Officer in Charge, Marine Inspection, shall require all applicants for original license to make written application upon Coast Guard Form CG-866. License and Renewal Application.

[CGFR 60-54, 25 FR 9349, Sept. 29, 1960, as amended by CGFR 66-33, 31 FR 15300, Dec. 6, 1966]

§ 187.10-15 Physical examination.

(a) All applicants for an original license shall be required to pass a physical examination given by a medical officer of the United States Public Health Service, or other reputable physician, and present a certificate executed by this Public Health Service Officer, or other reputable physician, to the Officer in Charge, Marine Inspection. This certificate shall attest to the applicant's acuity of vision, color sense, and general physical condition.

(b) Epilepsy, insanity, senility, acute general disease or neurosyphilis, badly impaired hearing, or other defect that would render the applicant incompetent to perform the ordinary duties of a licensed operator are causes for rejection.

(c) For an original license as operator the applicant must have uncorrected vision of at least 20/100 in both eyes correctable to at least 20/20 in one eye and 20/40 in the other. The color sense will be tested by means of a pseudo-isochromatic plate test, but any applicant who fails this test will be eligible if he can pass the "Williams" lantern test or equivalent.

(d) Where an applicant is not possessed of the vision, hearing, or general physical condition necessary, the Officer in Charge, Marine Inspection, after consultation with the Public Health Service physician or other examining physician, may make recommendations to the Commandant for an exception to these requirements, if in his opinion, extenuating circumstances warrant special consideration. Any requests for a decision by the Commandant must be accompanied by all pertinent correspondence, records, and reports. In this connection recommendations from agencies of the Federal Government operating Government vessels, as well as owners and operators of private vessels, made in behalf of their employees, will be given full consideration in arriving at a decision.

(R.S. 4405, as amended, R.S. 4462, R.S. 4438, as amended; sec. 3, 70 Stat. 152, sec. 12, 85 Stat. 217, sec. 6(b)(1), 80 Stat. 937; 46 U.S.C. 375, 416, 224, 390(b), 1461(e), 49 U.S.C. 1655(b)(1); 49 CFR 1.46 (b) and (o)(1) and 1.49(b))

[CGFR 60-54, 24 FR 9349, Sept. 29, 1960, as amended by CGFR 62-57, 28 FR 551, Jan. 22, 1963; CGFR 65-16, 30 FR 10904, Aug. 21, 1965; CGD 72-149R, 38 FR 5860, Mar. 5, 1973; 42 FR 29483, June 9, 1977]

§ 187.10-20 Experience or training.

(a) All applicants for original license shall present to the Officer in Charge, Marine Inspection, letters, discharges, or other official documents certifying the amount and character of their experience and the names of the vessels on which acquired. The Officer in Charge, Marine Inspection, must be satisfied as to the bona fides of all evidence of experience or training presented and may reject any evidence that he has reason to believe is not authentic or which does not sufficiently outline the amount, type and character of service. Photostatic or certified copies of the aforementioned evidence may be accepted for the purpose of filing with the application. No license shall be considered as satisfactory evidence of any qualifying experience required by the regulations in this part.

(b) No original license shall be issued to any person unless 25 percent of the required experience has been obtained within the 3 years immediately preceding the date of application. Service in the Armed Forces of the United States shall not be counted in computing the 3 years.

(c) No original license shall be issued to any naturalized citizen on less experience in any grade or capacity than would have been required of a citizen of the United States by birth.

(d) When an applicant presents evidence of service or experience which does not meet the specific requirements of the regulations in this part, such service may be accepted if in the opinion of the Officer in Charge, Marine Inspection, it is a reasonable equivalent thereto.

§ 187.10-25 Professional examination.

(a) When the amount and character of an applicant's experience is found to be satisfactory and he is eligible in all other respects, the applicant shall be examined in writing by the Officer in Charge, Marine Inspection.

(b) When the license application of any person has been approved, the Officer in Charge, Marine Inspection, shall give the applicant the required examination as soon as practicable. If applicants for license cannot be examined without material delay by the Officer in Charge, Marine Inspection, of the district in which the application is made, said Officer in Charge, Marine Inspection, shall endeavor, through the Coast Guard District Commander, to arrange for such examination by some other Officer in Charge, Marine Inspection.

(c) Examination required for license as operator on waters other than ocean and coastwise is contained in Subpart 187.20. Examination in Rules of the Road is for waters upon which the applicant is operating, but it will be incumbent upon every applicant, should he at any time operate on waters for which the Rules of the Road differ, to familiarize himself with the appropriate Rules.

(d) Examination required for license as operator on limited ocean or coastwise routes is contained in Subpart 187.25. Examination is required in International and Inland Rules of the Road, but it will be incumbent upon every applicant, should he at any time operate on waters for which the Rules of the Road differ, to familiarize himself with the appropriate Rules.

§ 187.10-30 Character check and references.

(a) The Officer in Charge, Marine Inspection, shall require every applicant for an original license to have written endorsement of three reputable persons to whom he is known, and if the documentary evidence of experience indicates service with a master or operator, one of the three endorsements shall be from that source, if it can be obtained. However, endorsements need not be required, at the discretion of the Officer in Charge, Marine Inspection, when an applicant holds a currently valid license.

(b) Fingerprint records shall be submitted to the Commandant on each applicant at the time application for license is made, except when an applicant holds a currently valid license fingerprint records need not be submitted. The application of any person may be rejected by the District Commander or his authorized representative when derogatory information has been brought to his attention which indicates that the applicant's habits of life and character are such as to warrant the belief that he cannot be entrusted with the duties and responsibilities of the station for which he made application. In the event that an applicant is rejected he shall be advised that he may submit a request to the Commandant for a review of his case. No examination shall be given or temporary permit issued in this type case pending the Commandant's authorization.

(c) The fact that an applicant for an original license is on probation as a result of action under Revised Statute 4450, as amended (46 U.S.C. 239), does not itself make such an applicant ineligible, provided he meets all the requirements for such original license. However, an original license issued under those circumstances will be subject to the same probationary conditions as were imposed against the seaman's certificates or licenses in proceedings under Revised Statute 4450, as amended. Any such applicant must file an application for license in the usual manner and the offense for which he was placed on probation will be considered on the merits of the case in determining his fitness to hold the license applied for. Nothing in the regulations in this subpart, however, shall be construed to permit an applicant to be examined for an original license during any period when a suspension without probation or a revocation imposed pursuant to Revised Statute 4450, as amended, is effective against his license or certificate.

Subpart 187.15—Renewal of Licenses

§ 187.15-1 Requirements for renewal of license.

(a) Applicants for renewals of licenses are charged with the duty of establishing to the satisfaction of the Coast Guard that they possess all of the qualifications necessary before they shall be issued a renewal of license.

(b) The Officer in Charge, Marine Inspection, shall, before granting renewal of license, require the applicant to make written application on Coast Guard Form CG-866, License and Renewal Application.

(c) Every Officer in Charge, Marine Inspection, shall, before renewing an existing license to an Operator or Ocean Operator who presents evidence of having served under the authority of his license within the three years next preceding the date of application for renewal, or who has been employed in a position closely related to the operation of vessels during the same three year period, require that such operator present an affidavit that he has reviewed within the three months next preceding the date of application, the Rules of the Road applicable to the waters for which he is licensed, and demonstrate his knowledge of the application of the Rules of the Road.

(d) Every Officer in Charge, Marine Inspection, shall, before renewing an existing license to an operator or ocean operator who has not been employed on the waters for which he is licensed, or who has not been employed in a position closely related to the operation of vessels during the three years next preceding the date of application for renewal, satisfy himself that such licensed operator is thoroughly familiar with the Rules of the Road applicable to the waters for which the applicant is licensed. A written examination may be required for this purpose of the applicant may be examined orally and a summary of the oral examination placed in the operator's license file.

(e) Upon the first renewal of a license after July 30, 1973, each applicant must demonstrate a knowledge of pollution abatement equivalent to that required for an original license.

(83 Stat. 852 (42 U.S.C. 4321, et seq.))

[CGFR 60-54, 25 FR 9349, Sept. 29, 1960, as amended by CGFR 64-19, 29 FR 7362, June 5, 1964; CGFR 66-33, 31 FR 15300, Dec. 6, 1966; CGD 71-161R, 37 FR 28263, Dec. 21, 1972]

§ 187.15-5 Application for renewal.

(a) The applicant for renewal shall appear in person before an Officer in Charge, Marine Inspection, except where the applicant would be put to great inconvenience or expense to appear in person or is engaged in a service that necessitates his continuous absence from the United States. In such cases the license may be renewed by forwarding the following documents to the Officer in Charge, Marine Inspection, of the office, which issued the license to be renewed.

(1) A letter of transmittal indicating reasons for not appearing in person and stating that to the best of his knowledge no physical incapacity exists, together with a properly executed application on Coast Guard Form CG-866, License and Renewal Application.

(2) The oath of office on the form prescribed by the Coast Guard, which has been duly executed before a person authorized to administer oaths.

(3) The license to be renewed.

(4) Certification by a United States Public Health Service Medical Officer or other reputable physician that color sense is normal.

[CGFR 60-54, 25 FR 9349, Sept. 29, 1960, as amended by CGFR 64-19, 29 FR 7362, June 5, 1964; CGFR 66-33, 31 FR 15300, Dec. 6, 1966]

§ 187.15-10 Fitness.

(a) No license shall be renewed if title has been forfeited or facts which would render a renewal improper have come to the attention of the Coast Guard.

§ 187.15-15 Period of grace.

(a) A license shall be renewed within 12 months after the date of expiration as shown on the license held, except when an applicant's license has expired beyond the 12-month period of grace during the time of the holder's service with the Armed Forces or the Merchant Marine and there was not reasonable opportunity for renewal. The period of such service following the date of expiration as shown on the license shall be added to the 12-month period of grace.

(b) No license shall be renewed more than 90 days in advance of the date of expiration thereof, unless there are extraordinary circumstances that justify a renewal beforehand in which case the reasons therefor must appear in detail upon the records of the Officer in Charge, Marine Inspection, renewing the license.

[CGFR 60-54, 25 FR 9349, Sept. 29, 1960, as amended by CGFR 61-9, 26 FR 3308, Apr. 19, 1961]

§ 187.15-20 Physical requirements.

(a) No license as operator shall be renewed except upon satisfactory evidence that the color sense of the applicant is normal. The satisfactory evidence may be in the form of a certificate of a medical officer of the U.S. Public Health Service, or in those ports where testing equipment is available, upon examination by the Officer in Charge, Marine Inspection, or his designated representative. In exceptional cases where an applicant would be put to great inconvenience or expense to appear before a medical officer of the U.S. Public Health Service and facilities are not available to the Officer in Charge, Marine Inspection, the color sense examination and certification may be made by a reputable physician.

(1) The color sense will be tested by means of a pseudo-isochromatic plate test, but any applicant who fails this test will be eligible if he can pass the "Williams" lantern test or equivalent. A person failing the pseudo-isochromatic plate test shall, if the Public Health Service Station at which he is undergoing test is not equipped with a lantern, pay his own expenses to travel to such station as is equipped with same.

(2) In the event an applicant for renewal of license as operator is pronounced color blind, the Officer in Charge, Marine Inspection, may grant him a license limited to service during daylight only.

(b) In the event it is found that an applicant for renewal of license obviously suffers from some physical or mental infirmity to a degree that in the opinion of the Officer in Charge, Marine Inspection, would render him incompetent to perform the ordinary duties of a licensed operator, the applicant shall be required to undergo an examination by a medical officer of the Public Health Service to determine his competency. If the applicant subsequently produces a certificate from the Public Health Service to the effect that his condition has improved to a satisfactory degree, or is normal, he shall be qualified in this respect.

(c) Nothing contained in this section shall debar an applicant who has lost the sight of one eye from securing a renewal of his license provided he is qualified in all other respects, and the vision in his one eye passes the test required for the better eye of an applicant possessed of both eyes.

[CGFR 60-54, 25 FR 9349, Sept. 29, 1960, as amended by CGFR 62-57, 28 FR 551, Jan. 22, 1963; CGFR 68-129, 33 FR 17792, Nov. 28, 1968]

§ 187.15-25 Reissue of expired license.

(a) Whenever an applicant shall apply for renewal of his license for the same grade, after 12 months after the date of its expiration, he shall be required to pass an examination for the same grade of license of such length and scope as will, in the judgment of the Officer in Charge, Marine Inspection, be sufficient to demonstrate adequately the continued professional knowledge of the examinee, except that no professional examination will be required provided the license expired during the time of the holder's service with the Armed Forces or the Merchant Marine and there was not reasonable opportunity for renewal. The Officer in Charge, Marine Inspection, may require a written examination for this purpose.

(b) The renewed license shall receive the next higher number of issue of present grade.

Subpart 187.20—Specific Requirements for Operators on Other Than Ocean and Coastwise Waters

§ 187.20-1 General application.

(a) The regulations in this subpart are for operators' licenses for service on waters other than ocean or coastwise.

(b) All motorboat operators, licensed under the provisions of the Act of April 25, 1940, as amended (46 U.S.C. 526-526u), prior to the effective date of June 1, 1958, shall be eligible, without professional or physical examination for a license as operator of mechanically propelled vessels on other than ocean and coastwise waters of the same scope and limitations, under the provisions of Act of May 10, 1956 (46 U.S.C. 290-390g); *Provided,* That a physical examination may be required, if, in the opinion of the Officer in Charge, Marine Inspection, the applicant possesses apparent physical disabilities which would give reasonable cause to doubt his physical ability to competently serve as a motorboat operator. Application for the issuance of licenses under the provisions of this paragraph must be filed before June 1, 1959, unless the applicant can show that because of active military service he was unable to file application within the 1-year period provided, the actual time spent in military service shall not be counted in computing the 1 year.

(c) Any sailboat operator or barge operator who submits satisfactory documentary evidence that he has served as operator in charge of passenger sailboats or passenger barges as the case requires, for a period of at least 1 year, shall be eligible, without professional examination, for a license as sailboat operator or as barge operator on waters other than ocean and coastwise under the same conditions as outlined in paragraph (b) of this section except that a physical examination shall be required if the applicant holds no license issued by the Coast Guard.

§ 187.20-5 General requirements.

(a) Any person who has attained the age of 18 years and is qualified in all other respects shall be considered eligible for an operator's license and may be examined by the Coast Guard.

(b) An applicant for a license as operator shall submit satisfactory evidence of experience as follows:

(1) For operator of mechanically propelled vessels, sailing vessels, or non-self-propelled vessels, he shall submit satisfactory evidence of at least 12 months' experience in the operation of the type of vessel specified in the application.

(2) For operator of auxiliary sailing vessels, he shall submit satisfactory evidence of at least 18 months' experience in the operation of mechanically propelled vessels, sailing vessels and auxiliary sailing vessels, of which at least 12 months' experience has been in the operation of sailing vessels or auxiliary sailing vessels.

[CGFR 60-54, 25 FR 9349, Sept. 29, 1960, as amended by CGFR 68-32, 33 FR 5728, Apr. 12, 1968]

§ 187.20-10 Examination for operators of mechanically propelled vessels.

(a) The examination will consist of questions on the following:

(1) The Rules of the Road applicable to the waters over which the applicant operates.

(2) Fire protection and extinguishment.

(3) Lifesaving equipment.

(4) The operation of propelling machinery, particularly the safe and proper handling of gasoline and gasoline engines.

(5) The operation and navigation of motorboats carrying passengers.

(6) Simple first aid.

(7) Rules and regulations of this subchapter applicable to vessels operating in other than ocean and coastwise service.

(8) The applicant must demonstrate to the satisfaction of the Officer in Charge, Marine Inspection, his knowledge of pollution laws and regulations, procedures for discharge containment and cleanup, and methods for disposal of sludge and waste material from cargo and fueling operations.

(b) Although the applicants will be examined only in the Rules of the Road applicable to the waters upon which they are operating, it will be incumbent upon them should they at any time operate on waters for which the Rules of the Road differ, to familiarize themselves with the appropriate rules.

(83 Stat. 852 (42 U.S.C. 4321, et seq.))

[CGFR 60-54, 25 FR 9349, Sept. 29, 1960, as amended by CGFR 63-32, 33 FR 5728, Apr. 12, 1968; CGD 71-161R, 37 FR 28263, Dec. 21, 1972]

§ 187.20-15 Examination for sailboat operators.

(a) The examination will consist of questions on the following:

(1) The Rules of the Road applicable to the waters over which the applicant operates.

(2) Fire protection and extinguishment.

(3) Lifesaving equipment.

(4) The operation of auxiliary machinery, particularly the safe and proper handling of gasoline and gasoline engines.

(5) The operation and navigation of sailboats carrying passengers.

(6) Simple first aid.

(7) Rules and regulations of this subchapter applicable to vessels operating in other than ocean and coastwise service.

(8) The applicant must demonstrate to the satisfaction of the Officer in

Charge, Marine Inspection, his knowledge of pollution laws and regulations, procedures for discharge containment and cleanup, and method for disposal of sludge and waste material from cargo and fueling operations.

(b) Although the applicants will be examined only in the Rules of the Road applicable to the waters upon which they are operating, it will be incumbent upon them, should they at any time operate on waters for which the Rules of the Road differ, to familiarize themselves with the appropriate rules.

(83 Stat. 852 (42 U.S.C. 4321, et seq.))

[CGFR 60-54, 25 FR 9349, Sept. 29, 1960, as amended by CGD 71-161R, 37 FR 28263, Dec. 21, 1972]

§ 187.20-17 Examination for operators of auxiliary sailing vessels.

(a) The examination will consist of questions on the following:

(1) The Rules of the Road applicable to the waters over which the applicant operates.

(2) Fire protection and extinguishment.

(3) Lifesaving equipment.

(4) The operation of propelling machinery, particularly the safe and proper handling of gasoline and gasoline engines.

(5) The operation and navigation of auxiliary sailing vessels carrying passengers.

(6) Simple first aid.

(7) Rules and regulations of this subchapter applicable to vessels operating in other than ocean and coastwise service.

(8) The applicant must demonstrate to the satisfaction of the Officer in Charge, Marine Inspection, his knowledge of pollution laws and regulations, procedures for discharge containment and cleanup, and methods for disposal of sludge and waste material from cargo and fueling operations.

(b) Although the applicants will be examined only in the Rules of the Road applicable to the waters upon which they are operating, it will be incumbent upon them, should they at any time operate on waters for which the Rules of the Road differ, to familiarize themselves with the appropriate rules.

(83 Stat. 852 (42 U.S.C. 4321, et seq.))

[CGFR 68-32, 33 FR 5728, Apr. 12, 1968; CGD 71-161R, 37 FR 28263, Dec. 27, 1972]

§ 187.20-20 Examination for barge operators.

(a) The examination will consist of questions on the following:

(1) The regulations governing barges applicable to the waters over which the applicant operates.

(2) Fire protection and extinguishment.

(3) Lifesaving equipment.

(4) The operation of auxiliary machinery, particularly the safe and proper handling of gasoline and gasoline engines.

(5) The operation of barges carrying passengers.

(6) Simple first aid.

Subpart 187.25—Specific Requirements for Ocean Operators

§ 187.25-1 General application.

(a) *Vessels' routes.* The regulations in this subpart are for operators' licenses for limited ocean and coastwise service on routes not to exceed 100 miles offshore between such limits as determined by the Officer in Charge, Marine Inspection.

(b) *Documentary evidence of service.* An applicant who submits satisfactory documentary evidence that he has served as operator in charge of ocean or coastwise passenger motorboats, motor vessels or yachts while holding a license as motorboat operator, for a period of at least 1 year, shall be eligible, without professional or physical examination, for a license as operator of ocean vessels of a class, route and tonnage commensurate with his experience: *Provided,* That a physical examination may be required, if in the opinion of the Officer in Charge, Marine Inspection, the applicant possesses apparent physical disabilities which would give reasonable cause to doubt his physical ability to competently serve as operator of ocean vessels and: *Provided further,* That 6 months of the required 1 year of experience shall have been within the 3 years immediately preceding the date of application. Application for the issuance of licenses under the provisions of this paragraph must be filed before July 1, 1959, unless the applicant can show that because of active military service, he was unable to obtain 6 months' service within the past 3 years or to file application within the 1-year period provided, the actual time spent in military service shall not be counted in computing either the 3-year period or the 1-year period specified in this paragraph.

(1) An applicant who submits satisfactory documentary evidence that he has served as operator in charge of ocean or coastwise passenger sailing vessels, or as operator in charge of ocean or coastwise passenger non-self-propelled vessels, as the case requires, for a period of 1 year, shall be eligible, without professional examination, for a license as operator of ocean sail propelled vessels or non-self-propelled vessels of a class, route and tonnage commensurate with his experience under the same conditions as outlined in this paragraph, except that a physical examination shall be required if the applicant holds no license issued by the Coast Guard, and except that application for a license as operator of ocean non-self-propelled vessels must be filed before January 1, 1960.

(c) *Routes in excess of 100 miles.* If application is made for a route in excess of the maximum mileage limitation specified for an ocean license, in order that an outlying island or body of land may be included in the route, the complete application file shall be forwarded to the Commandant for evaluation. In arriving at a decision in each individual case, the factors that will be considered are the amount and character of the qualifying experience of the applicant, the necessity, if any, for additional professional examination beyond that specified in §§ 187.25-15 and 187.25-20 to qualify the applicant for the increase in route and the recommendations of the Officer in Charge, Marine Inspection, to whom application is made.

(d) *Minimum age.* Any person who has attained the age of 19 years and is qualified in all other respects shall be eligible for a license.

(e) *Citizenship.* No license shall be issued to any person who is not a citizen of the United States, either native-born or fully naturalized except that a resident alien who is otherwise eligible for a license under paragraph (b) of this section shall not be required to be a citizen. The Officer in Charge, Marine Inspection, must be satisfied as to the bona fides of all evidence of citizenship presented, and may reject any evidence that he has reason to believe is not authentic. Acceptable evidence of citizenship is described below in the order of its desirability, except that the first six (6) acceptable methods will be assigned equal weight:

(1) Birth certificate or certified copy.

(2) Naturalized citizens must present a Certificate of Naturalization.

(3) Baptismal certificate or parish record recorded within one year after birth.

(4) Statement of a practicing physician certifying that he attended the birth and that he has a record in his possession showing the date on which it occurred.

(5) State Department passport.

(6) A commission in the United States Navy, Marine Corps, Coast Guard, either regular or reserve; or satisfactory documentary evidence of having been commissioned in one of these services subsequent to January 1, 1936, provided such commission or evidence shows the holder to be a citizen.

(7) A continuous discharge book, certificate of identification or merchant mariner's document issued by the Coast Guard or by the former Bureau of Marine Inspection and Navigation which shows the holder as an American citizen provided the records indicate that the holder of such continuous discharge book, certificate of identification, or merchant mariner's document produced satisfactory evidence of his citizenship at the time of the issuance of the same.

(8) Delayed certificate of birth. If an applicant claiming to be a citizen of the United States submits a delayed certificate of birth issued under a State's seal, it may be accepted as prima facie evidence of citizenship in the absence of any collateral facts indicating fraud in its procurement.

(9) For persons deriving citizenship through naturalization of their parents, a Certificate of Citizenship issued by the United States Immigration and Naturalization Service is acceptable as documentary evidence of citizenship.

(10) If no one of the requirements set forth in paragraphs (e) (1) to (9) of this section can be met by the applicant, he should make a statement to that effect, and in an attempt to establish citizenship he may submit for consideration data of the following character:

(i) Report of the Census Bureau showing the earliest record of age or birth available. Request for such information should be addressed to the Director of the Census, Washington 25, D.C. In making such request, definite information must be furnished the Census Bureau as to the place when the first census was taken after birth of the applicant, giving the name of the street and number of the house or the names of the cross streets between which the house was located if residing in a city; or the name of the town, township, precinct, magisterial district, militia district, beat or election district if residing in the country, also the names of parents, or the names of other persons with whom residing on the date specified.

NOTE: A census was taken in the following years: June 1, 1860, 1870, 1880 and 1900; April 15, 1910; January 1, 1920; April 1, 1930; April 1940; and April 1950. Records for 1890 are not available.

(ii) Affidavits of parents or relatives or affidavits by two or more responsible citizens of the United States, stating citizenship; school records; immigration records; or insurance policies.

(R.S. 4131, as amended, secs. 5 and 7, 1935, as amended, 1936, as amended, sec. 302, 49 Stat. 1992, as amended; 46 U.S.C. 221, 672a, 689, 1332)

[CGFR 60-54, 25 FR 9349, Sept. 29, 1960, as amended by CGFR 68-32, 33 FR 5728, Apr. 12, 1968]

§ 187.25-5 Service requirements, mechanically propelled vessels.

(a) The minimum service required to qualify an applicant for examination for a license as operator of mechanically propelled vessels in ocean service is:

(1) One year's service as a licensed motorboat operator of motorboats carrying six or less passengers for hire on ocean or coastwise waters; or,

(2) Two years' deck department service in the operation of ocean or coastwise motorboats or small motor vessels; or,

(3) One year's service as able seaman on ocean or coastwise steam or motor vessels, together with 1 year's deck department service in the operation of ocean or coastwise motorboats or small motor vessels; all of which service shall have been acquired while holding a merchant mariner's document endorsed as "able seaman, any waters, unlimited," or as "able seaman, any waters, 12 months."

(b) All service required by this section shall consist of actual service performed. Accordingly, seasonal service shall only be credited for the actual time served.

[CGFR 68-32, 33 FR 5728, Apr. 12, 1968]

§ 187.25-10 Service requirements, sail propelled vessels.

(a) The minimum service required to qualify an applicant for examination for a license as operator of sail propelled vessels in ocean service is:

(1) Two years' service as operator in charge of ocean or coastwise sail vessels carrying passengers; or,

(2) Three years' service in the operation of ocean or coastwise sail vessels.

§ 187.25-11 Service requirements, auxiliary sailing vessel.

(a) The minimum service required to qualify an applicant for examination for a license as operator of auxiliary sailing vessels in ocean service is:

(1) One year's service as a licensed motorboat operator on ocean or coastwise waters and 2 years' service in the operation of ocean or coastwise sailing vessels; or,

(2) 18 months' deck department service in the operation of ocean or coastwise motorboats or small motor vessels and 2 years' service in the operation of ocean or coastwise sailing or auxiliary sailing vessels; or,

(3) One year's deck department service in the operation of ocean or coastwise motorboats or small motor vessels while holding a motorboat operator's license or a license as operator of mechanically propelled vessels and 2 years' service in the operation of ocean or coastwise sailing or auxiliary sailing vessels.

(4) One year's service in the operation of ocean or coastwise sailing or auxiliary sailing vessels while holding a license as operator of mechanically propelled vessels in ocean service; or,

(5) Six months' service in the deck department of mechanically propelled vessels in ocean service while holding a license as operator of sailing vessels in ocean service.

[CGFR 68-32, 33 FR 5728, Apr. 12, 1968]

§ 187.25-12 Service requirements, non-self-propelled vessels.

(a) The minimum service required to qualify an applicant for examination for a license as operator of non-self-propelled vessels in ocean service is:

(1) Two years' deck service on ocean or coastwise non-self-propelled vessels; or,

(2) One year's deck service on ocean or coastwise non-self-propelled vessels while holding a license as operator of non-self-propelled vessels upon waters other than ocean and coastwise; or,

(3) One year's deck service on ocean or coastwise moored non-self-propelled passenger vessels for a license restricted to such moored vessels.

(4) Where more than 50 percent of the service required by paragraph (a)(1) or (2) of this section has been on non-towed or moored non-self-propelled vessels, the license shall be restricted to such vessels.

§ 187.25-15 Examination for operator of ocean mechanically propelled vessels.

(a) An applicant for a license as operator of ocean mechanically propelled vessels shall be required to pass a satisfactory examination as to his knowledge of the subjects listed in this section:

(1) Use of a nautical chart and the meaning of the various symbols and abbreviations thereon; determining and laying off compass courses and distances on a chart and allowing for set and drift of currents; fixing a vessel's position by bearings of fixed object(s).

(2) International and Inland Rules of the Road.

(3) Practical application of variation and deviation of the magnetic compass and simple methods of determining the compass error.

(4) Rudimentary seamanship, including:

(i) The use and construction of a sea anchor.

(ii) Temporary repairs to the hull in the event of springing a leak.

(iii) Man overboard procedure in the handling of the boat and recovering the person.

(iv) Proper anchoring, mooring and unmooring procedures.

(v) Handling vessel in heavy weather.

(5) Aids to navigation, including the basic buoyage system of the United States.[1]

(6) Local winds, weather, and currents.[1]

(7) Local navigational features and conditions.[1]

(8) Simple first aid, including artificial respiration.

(9) Elementary signals, including:

(i) Storm signals.

(ii) Distress signals.

(10) The use and reading of weather bulletins.

(11) The use and reading of an aneroid barometer.

(12) Lifesaving and firefighting equipment, including precautions to be taken against fire, explosion from oil or gasoline and methods of dealing with fire, the use of fire extinguishers, and the handling of the vessel after fire is discovered.

(12-a) The applicant must demonstrate to the satisfaction of the Officer in Charge, Marine Inspection, his knowledge of pollution laws and regulations, procedures for discharge containment and cleanup, and methods for disposal of sludge and waste material from cargo and fueling operations.

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[1] The part of examination for these subjects will be based upon material contained in the U.S. Coast Pilot, Light Lists, and Tide and Current Tables applicable to the area for which the license is to be valid.

(13) Rules and regulations of this subchapter applicable to ocean and coastwise vessels.

(14) The operation of propelling machinery, particularly the safe and proper handling of gasoline and gasoline engines.

(15) Such further examination as the Officer in Charge, Marine Inspection, may consider necessary to establish the applicant's proficiency for the route to be navigated.

(83 Stat. 852 (42 U.S.C. 4321, et seq.))

[CGFR 60-54, 25 FR 9349, Sept. 29, 1960, as amended by CGD 71-161R, 37 FR 28263, Dec. 21, 1972]

§ 187.25-20 Examination for operator of ocean sail propelled vessels.

(a) An applicant for a license as operator of ocean sail vessels of less than 100 gross tons shall be required to pass a satisfactory examination as to his knowledge of the subjects listed in this paragraph:

(1) Use of a nautical chart and the meaning of the various symbols and abbreviations thereon; determining and laying off compass courses and distances on a chart, and allowing for set and drift of currents; fixing a vessel's position by bearings of fixed object(s).

(2) International and Inland Rules of the Road.

(3) Practical application of variation and deviation of the magnetic compass and simple methods of determining the compass error.

(4) Rudimentary seamanship, including:

(i) The use and construction of a sea anchor.

(ii) Temporary repairs to the hull in the event of springing a leak.

(iii) Man overboard procedure in the handling of the boat and recovering the person.

(iv) Proper anchoring, mooring and unmooring procedures.

(v) Handling vessel in heavy weather.

(vi) The setting and taking on of a fore and aft sail and others relating to the handling of sails and sailing vessels.

(5) Aids to navigation, including the basic buoyage system of the United States.[1]

(6) Local winds, weather, and currents.[1]

(7) Local navigational features and conditions.[1]

(8) Simple first aid, including artificial respiration.

(9) Elementary signals, including:

(i) Storm signals.

(ii) Distress signals.

(10) The use and reading of weather bulletins.

(11) The use and reading of an aneroid barometer.

(12) Lifesaving and firefighting equipment including precautions to be taken against fire, explosion from oil or gasoline and methods of dealing with fire, the use of fire extinguishers and the handling of the vessel after fire is discovered.

(12-a) The applicant must demonstrate to the satisfaction of the Officer in Charge, Marine Inspection, his knowledge of pollution laws and regulations, procedures for discharge containment and cleanup, and method for disposal of sludge and waste material from cargo and fueling operations.

(13) Rules and regulations of this subchapter applicable to ocean and coastwise vessels.

(14) The operation of auxiliary machinery, particularly the safe and proper handling of gasoline and gasoline engines.

(15) Such further examination as the Officer in Charge, Marine Inspection, may consider necessary to establish the applicant's proficiency for the route to be navigated.

(83 Stat. 852 (42 U.S.C. 4321, et seq.))

[CGFR 60-54, 25 FR 9349, Sept. 29, 1960, as amended at CGD 71-161R, 37 FR 28263, Dec. 21, 1972]

§ 187.25-21 Examination for operator of auxiliary sailing vessels in ocean service.

(a) An applicant for a license as operator of ocean auxiliary sailing vessels of less than 100 gross tons shall be required to pass a satisfactory examination as to his knowledge of the subjects listed in this paragraph:

(1) Use of a nautical chart and the meaning of the various symbols and

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[1] See footnote to § 187.25-15.

abbreviations thereon; determining and laying off compass courses and distances on a chart, and allowing for set and drift of currents; fixing a vessel's position by bearings of fixed object(s).

(2) International and Inland Rules of the Road.

(3) Practical application of variation and deviation of the magnetic compass and simple methods of determining the compass error.

(4) Rudimentary seamanship, including:

(i) The use and construction of a sea anchor.

(ii) Temporary repairs to the hull in the event of springing a leak.

(iii) Man overboard procedure in the handling of the boat and recovering the person.

(iv) Proper anchoring, mooring and unmooring procedures.

(v) Handling vessel in heavy weather.

(vi) The setting and taking in of a fore and aft sail and others relating to the handling of sails and sailing vessels.

(5) Aids to navigation, including the basic buoyage system of the United States.

(6) Local winds, weather, and currents.

(7) Local navigational features and conditions.

(8) Simple first aid, including artificial respiration.

(9) Elementary signals, including:

(i) Storm signals.

(ii) Distress signals.

(10) The use and reading of weather bulletins.

(11) The use and reading of an aneroid barometer.

(12) Lifesaving and firefighting equipment including precautions to be taken against fire, explosion from oil or gasoline and methods of dealing with fire, the use of fire extinguishers and the handling of the vessel after fire is discovered.

(12-a) The applicant must demonstrate to the satisfaction of the Officer in Charge, Marine Inspection, his knowledge of pollution laws and regulations, procedures for discharge containment and cleanup, and methods for disposal of sludge and waste material from cargo and fueling operations.

(13) Rules and regulations of this subchapter applicable to ocean and coastwise vessels.

(14) The operation of propelling machinery, particularly the safe and proper handling of gasoline and gasoline engines.

(15) Such further examination as the Officer in Charge, Marine Inspection, may consider necessary to establish the applicant's proficiency for the route to be navigated.

(b) If the applicant is a holder of a valid license as operator of mechanically propelled vessels in ocean service, he will be required to pass a satisfactory examination in the following subjects:

(1) International and Inland Rules of the Road.

(2) The setting and taking in of a fore and aft sail and others relating to the handling of sails and sailing vessels.

(c) If the applicant is the holder of a valid license as operator of ocean sailing vessels, he will be required to pass an examination in the following subjects:

(1) International and Inland Rules of the Road.

(2) The operation of propelling machinery, particularly the safe and proper handling of gasoline and gasoline engines.

(83 Stat. 852 (42 U.S.C. 4321, et seq.))

[CGFR 68-32, 33 FR 5728, Apr. 12, 1968; CGD 71-161R, 37 FR 28263, Dec. 21, 1972]

§ 187.25-22 Examination for operator of ocean non-self-propelled vessels.

(a) An applicant for a license as operator of ocean non-self-propelled vessels shall be required to pass a satisfactory examination as to his knowledge of the subjects listed in this paragraph:

(1) All subjects required by § 187.20-20 for a license as operator of non-self-propelled vessels upon waters other than ocean and coastwise.

(2) Such further examination as the Officer in Charge, Marine Inspection, may consider necessary to establish the applicant's proficiency for the route to be navigated.

§ 187.25-25 Additional routes.

(a) A licensed operator of mechanically or sail propelled ocean vessels who applies for an endorsement to his license of an additional route, which embraces additional navigational hazards, may be required, at the discretion of the Officer in Charge, Marine Inspection, to show service on the waters for which the endorsement is requested. However, applicants shall not be required to show more than 3 months' service, or 12 trips within one year. Each applicant for endorsement of an additional route on his license shall be examined on the following subjects, except that examination on International and Inland Rules of the Road shall be required not more than once a year:

(1) International and Inland Rules of the Road.

(2) Aids to navigation on route. [1]

(3) Local winds, weather and currents. [1]

(4) Local navigational features and conditions. [1]

(4-a) The application must demonstrate to the satisfaction of the Officer in Charge, Marine Inspection, his knowledge of pollution laws and regulations, procedures for discharge containment and cleanup, and methods for disposal of sludge and waste material from cargo and fueling operations.

(5) Such further examinations as the Officer in Charge, Marine Inspection, may consider necessary to establish the applicant's proficiency for the route to be navigated.

(83 Stat. 852 (42 U.S.C. 4321, et seq.))

[CGFR 60-54, 25 FR 9349, Sept. 29, 1960, as amended at CGD 71-161R, 37 FR 28263, Dec. 21, 1972]

Subpart 187.30—Action Against Licenses

§ 187.30-1 General application.

(a) All licenses issued by the Coast Guard are subject to suspension or revocation as provided under the provisions of 46 U.S. Code, section 239, and the regulations promulgated thereunder in Part 137 in Subchapter K (Marine Investigations and Suspension and Revocation Proceedings) of this chapter.

(Interpret or apply R.S. 4450, as amended, sec. 2, 68 Stat. 484; 46 U.S.C. 239, 239b)

[CGFR 62-27, 27 FR 9876, Oct. 5, 1962, as amended by CGFR 68-32, 33 FR 5729, Apr. 12, 1968]

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[1] See footnote to §187.25-15.

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AUTHORITY: R.S. 4405, as amended, 4462, as amended, sec. 5, 79 Stat. 424; 46 U.S.C. 375, 416, 445. Interpret or apply R.S. 4400, as amended, 4401, as amended, 4403, as amended, 4417, as amended, 4418, as amended, 4472, as amended, 4488, as amended, 4491, as amended, sec. 10, 35 Stat. 428, as amended, 41 Stat. 305, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 17, 54 Stat. 166, as amended, sec. 6(b)(1), 80 Stat. 938; 46 U.S.C. 362, 364, 372, 391, 170, 481, 489, 395, 363, 367, 526p, 49 U.S.C. 1655(b), E.O. 11239; 3 CFR, 1964-1965 Comp.; 49 CFR 1.4(a)(2). Additional authority cited with regulations affected.

SOURCE: CGFR 67-83, 33 FR 1113, Jan. 27, 1968, unless otherwise noted.

Subpart 188.01—Authority and Purpose

§ 188.01-1 Purpose of regulations.

(a) The purpose of the regulations in this subchapter is to set forth uniform minimum requirements for oceanographic vessels found by the Officer in Charge, Marine Inspection, or the Commandant, U.S. Coast Guard, to be "oceanographic research vessels" as defined in section 441 of 46 United States Code (Pub. L. 89-99), and of a type as listed in column 7 of Table 188.05-1(a). These requirements are prescribed in accordance with the intent of Title 52 of the Revised Statutes and acts amendatory thereof or supplemental thereto which govern inspection and certification of vessels, and to provide for oceanographic vessels exemptions from specific requirements when found they are "* * * not necessary in the performance of the mission of the vessel, * * *"; as well as to specify the terms and conditions applicable to such vessels, as authorized by section 445 of 46 United States Code (Pub. L. 89-99). The regulations are necessary to carry out the provisions of applicable laws governing inspection and certification of oceanographic vessels and such regulations have the force of law.

§ 188.01-3 Scope of regulations.

(a) The regulations in this subchapter contain requirements for materials, design, construction, equipment, lifesaving appliances and procedures, fire protection, and fire prevention procedures, inspection and certification, and special operational requirements for oceanographic vessels, including the handling, use, and control of explosives and other dangerous articles or substances.

(b) The regulations in this subchapter are deemed to be necessary when "* * * a vessel * * * is being employed exclusively in instruction in oceanography or limnology, or both, or exclusively in oceanographic research * * *." If or when a vessel is not so exclusively employed and engages in any trade or commerce then the provisions of section 441 through 445 of 46 United States Code (Pub. L. 89-99), are not applicable and such a vessel shall be subject to the applicable provisions of laws and other regulations in this chapter governing such activities.

§ 188.01-5 Assignment of functions.

(a) The Department of Transportation Act (Pub. L. 89-670, 80 Stat. 931-950, 49 U.S.C. 1651-1659), transferred to and vested in the Secretary of Transportation "* * * all functions, powers, and duties, relating to the Coast Guard, of the Secretary of the Treasury and of other officers and offices of the Department of the Treasury" (subsection 6(b)(1), 49 U.S.C. 1655(b)). This transfer is subject to certain conditions, modifications, and exceptions as set forth in such act. By a rule in 49 CFR 1.4(a) the Secretary of Transportation delegated to the Commandant, U.S. Coast Guard, authority to exercise certain functions, powers, and duties as set forth in subsections 6(a)(4), 6(b)(1) and 6(g) of such act (49 U.S.C. 1655), subject to conditions, exceptions and modifications as described in 49 CFR Part 1. By a rule in 49 CFR 1.9 the Secretary of Transportation continued in effect actions taken prior to April 1, 1967.

(b) The Commandant, U.S. Coast Guard, in a notice dated March 31, 1967, and effective April 1, 1967 (32 FR 5611), approved the continuation of orders, rules, regulations, policies, procedures, privileges, waivers, and other actions, which had been made, allowed, granted, or issued prior to April 1, 1967, and provided that they shall continue in effect according to their terms until modified, terminated, repealed, superseded, or set aside by appropriate authority.

[CGFR 68-32, 33 FR 5729, Apr. 12, 1968]

§ 188.01-10 Authority for regulations.

(a) *General.* The authority to prescribe regulations generally is set forth in 46 United States Code, sections 375 and 416, as well as in certain other provisions in 46 United States Code, sections 170, 361, 362, 363, 364, 367, 372, 391, 392, 395, 399, 400, 407, 411, 435, 481, and 489. In 46 United States Code, section 445, is the authority for exemptions for oceanographic vessels upon such terms and conditions as may be deemed necessary. Under the provisions of 46 United States Code, section 372, the Commandant, U.S. Coast Guard, superintends the administration of the vessel inspection laws and is required to produce a correct and uniform administration of the inspection laws, rules and regulations.

(b) *Inspection and certification.* The regulations regarding inspection and certification of oceanographic vessels interpret or apply 46 United States Code, sections 363, 367, 391, 392, 395, 399, 411, 435, and 481.

(c) *Construction and arrangement.* The regulations regarding construction and arrangement of oceanographic vessels interpret or apply 46 United States Code, sections 363, 367, 391, 392, 395, and 481.

(d) *Subdivision and stability.* The regulations regarding subdivision and stability of oceanographic vessels interpret or apply 46 United States Code, sections 85a, 88a, 363, 367, 392, 395, 435, and 481.

(e) *Lifesaving equipment.* The regulations regarding lifesaving equipment of oceanographic vessels interpret or apply 46 United States Code, sections 363, 367, 391, 392, 395, 435, 481, and 526p.

(f) *Fire protection equipment.* The regulations regarding fire protection equipment of oceanographic vessels interpret or apply 46 United States Code, sections 363, 367, 391, 392, 395, 435, 481, and 526p.

(g) *Handling, use and control of explosives and other dangerous articles.* The regulations regarding the handling, use, and control of explosives and other dangerous articles for oceanographic vessels interpret or apply 46 United States Code, sections 170, 363, 367, 391, 392, 395, 435, and 481.

(h) *Vessel control and miscellaneous systems and equipment.* The regulations regarding vessel control and miscellaneous systems and equipment of oceanographic vessels interpret or apply 46 United States Code, sections 363, 367, 391, 392, 395, 435, and 481.

(i) *Operations.* The regulations regarding operations of oceanographic vessels interpret or apply 46 United States Code, sections 170, 363, 367, 391, 392, 395, 435, and 481.

Subpart 188.05—Application

§ 188.05-1 Vessels subject to requirements of this subchapter.

(a) This subchapter shall be applicable to all U.S.-flag vessels indicated in Column 7 of Table 188.05-1(a) to the extent prescribed by applicable laws and the regulations in this subchapter, except as follows:

(1) Any foreign vessel.

(2) Any vessel operating exclusively on inland waters which are not navigable waters of the United States.

(3) Any vessel while laid up and dismantled and out of commission.

(4) With the exception of vessels of the U.S. Maritime Administration, any vessel with title vested in the United States and which is used for public purposes.

§ 188.05-2 Exemptions from inspection laws for oceanographic vessels and terms and conditions which apply in lieu thereof.

(a) The regulations in this subchapter govern vessels employed exclusively as "oceanographic research vessels," as defined in section 441 of 46 U.S. Code, with respect to inspection and certification by the U.S. Coast Guard. Any law in Title 52 of the Revised Statutes regarding inspection and certification which has requirements different from those specified in this subchapter shall be deemed to come within the provisions of section 445 of 46, U.S. Code, and the oceanographic vessel shall be exempt from its application because it is not necessary in the performance of the mission of the vessel.

(b) The oceanographic vessel shall comply with the dangerous cargo act in section 170 of 46, U.S. Code, and the regulations in Subchapter N (Dangerous Cargoes) of this chapter whenever applicable, except to the extent as specifically provided otherwise in this subchapter.

(c) In order not to inhibit the mission of vessels subject to this subchapter, the Coast Guard will not require plan approval of design nor inspection of scientific equipment except to the extent specifically provided otherwise in this subchapter. However, it is the responsibility of the owner to have incorporated into the design and to maintain such equipment to applicable safety standards.

§ 188.05-3 New vessels and existing vessels for the purpose of application of regulations in this subchapter.

(a) *New vessels.* In this application of the regulations in this subchapter, a new vessel is meant to be one, the construction of which is contracted for on or after March 1, 1968, or the major alteration of a vessel is contracted for on or after March 1, 1968, or the conversion of any vessel not previously inspected and certificated by the Coast Guard which is contracted for on or after March 1, 1968.

(b) *Existing vessels.* In the application of the regulations in this subchapter an existing vessel is meant to be one which is holding a valid certificate of inspection as an oceanographic vessel on March 1, 1968.

(c) *Other vessels.* When it is desired to have a vessel, which has been used in trade or for recreational purposes, initially inspected and certificated as an oceanographic vessel on or after March 1, 1968, such vessel shall be subject to all the requirements governing a vessel contracted for on or after March 1, 1968. However, if such vessel has a current certificate of inspection as a passenger, tank, cargo, or miscellaneous vessel, the Commandant may authorize its inspection and certification under this subchapter as a vessel contracted for prior to March 1, 1968, subject to those requirements necessitated by change in service.

§ 188.05-5 Specific application noted in text.

(a) At the beginning of the various parts, subparts, and sections, a more specific application is generally given for the particular portion of the text involved. This application sets forth the types, sizes, or services or vessels to which the text pertains, and in many cases limits the application of the text to vessels contracted for before or after a specific date. As used in this subchapter, the term "vessels contracted for" includes not only the contracting for the construction of a vessel, but also the contracting for a material alteration to a vessel, the contracting for the conversion of a vessel to an oceanographic vessel, and the changing of area of operation of a vessel if such change increases or modifies the general requirements for the vessel or increases the hazards to which it might be subjected.

§ 188.05-7 Ocean or unlimited coastwise vessels on inland and Great Lakes routes.

(a) Vessels inspected and certificated for ocean or unlimited coastwise routes shall be considered suitable for navigation insofar as the provisions of this subchapter are concerned on any inland routes, including the Great Lakes.

§ 188.05-10 Application to vessels on an international voyage.

(a) Except as provided in paragraphs (b), (c), and (d) of this section, the regulations in this subchapter that apply to a vessel on an "international voyage" apply to a vessel that—

(1) Is mechanically propelled and of at least 500 gross tons; and

(2) Is engaged on a voyage—

(i) From a country to which the International Convention for Safety of Life at Sea, 1960, June 17, 1960, 16 U.S.T. 185, TIAS 5780, 536 UNTS 27 (SOLAS 60) applies, to a port outside that country or the reverse;

(ii) From any territory, including the Commonwealth of Puerto Rico, all possessions of the United States, and all lands held by the United States under a protectorate or mandate, whose international relations are the responsibility of a contracting SOLAS 60 government, or which is administered by the United Nations, to a port outside that territory or the reverse; or

(iii) Between the contiguous states of the United States and the states of Hawaii or Alaska or between the states of Hawaii and Alaska.

(b) The regulations that apply to a vessel on an "international voyage" in this subchapter do not apply to a vessel that—

(1) Solely navigates the Great Lakes and the St. Lawrence River as far east as a straight line drawn from Cap des Rosiers to West Point, Anticosti Island and, on the north side of Anticosti Island, the 63rd Meridian; or

(2) Is numbered in accordance with the Federal Boat Safety Act of 1971 (85 Stat. 213; 46 U.S.C. 1451, et seq.).

(c) The Commandant or his authorized representative may exempt any vessel on an international voyage from the requirements of this subchapter if the vessel—

(1) Makes a single international voyage in exceptional circumstances; and

(2) Meets safety requirements prescribed for the voyage by the Commandant.

(d) The Commandant or his authorized representative may exempt any vessel from the construction or lifesaving requirements of this subchapter if—

(1) The vessel does not proceed more than 20 miles from the nearest land in the course of its voyage; and

(2) The Commandant determines that the conditions of the voyage render the application of the full lifesaving requirements unreasonable or unnecessary.

(R.S. 4417a, as amended, Sec. 6(b)(1), 80 Stat. 937; 46 U.S.C. 375, 391a, 416; 49 CFR 1.46(b))

[CGD 72-131R, 38 FR 29320, Oct. 24, 1973, as amended by CGD 80-123, 45 FR 64586, Sept. 30, 1980]

§ 188.05-15 Application to vessels concerning nuclear energy.

(a) Pertinent definitions are in § 188.10-47.

(b) Special provisions for "nuclear vessels" are in Part 99 of Subchapter I (Cargo and Miscellaneous Vessels) of this chapter and shall be followed.

(c) The regulations covering the transportation and handling of radioactive material as cargo are in Part 146 of Subchapter N (Dangerous Cargoes) of this chapter.

(d) The regulations covering pressure containing portions of nuclear power systems are in Part 55 of Subchapter F (Marine Engineering) of this chapter. See § 56.04-20 of Subchapter F (Marine Engineering) of this chapter for nuclear piping. See Subpart 61.25 of Subchapter F (Marine Engineering) of this chapter for requirements regarding periodic tests and inspections of nuclear reactor power plants.

[CGFR 68-82, 33 FR 18911, Dec. 18, 1968]

§ 188.05-30 Portable tanks—interpretive rulings.

(a) The phrase "drums, barrels, or other packages," as used in R.S. 4417a, as amended (46 U.S.C. 391a), and in R.S. 4472, as amended (46 U.S.C. 170), is interpreted to mean portable tanks having a maximum capacity of 110 U.S. gallons and Department of Transportation specifications cylinders having a water capacity of not more than 1,000 pounds, which are actually loaded and discharged from vessels with their contents intact.

(b) The phrase "inflammable or combustible liquid cargo in bulk" as used in R.S. 4417a, as amended (46 U.S.C. 391a), and in R.S. 4472, as amended (46 U.S.C. 170), is interpreted to include such cargo in portable tanks of a capacity of more than 110 U.S. gallons.

(c) The phrase "liquid cargo" as used in R.S. 4417a, as amended (46 U.S.C. 391a), is interpreted to mean flammable or combustible liquids.

[CGFR 67-83, 33 FR 1113, Jan. 27, 1968, as amended by CGFR 69-72, 34 FR 17503, Oct. 29, 1969]

§ 188.05-33 Scientific personnel—interpretive rulings.

(a) Scientific personnel on oceanographic vessels are not considered to be seamen or passengers, but are considered as "persons" when requirements are based on total persons on board.

(b) Scientific personnel on such vessels shall not be required to possess seamen's documents nor shall they be required to sign shipping articles.

§ 188.05-35 Load lines—interpretive ruling.

(a) Certificated vessels shall be subject to the applicable provisions of the Load Line Acts, and regulations in Subchapter E (Load Lines) of this chapter.

Subpart 188.10—Definition of Terms Used in This Subchapter

§ 188.10-1 Approved.

This term means approved by the Commandant unless otherwise stated.

§ 188.10-3 Approved container.

This term means a container which is properly labeled, marked and approved by ICC for the commodity which it contains.

§ 188.10-5 Barge.

This term means any non-self-propelled vessel.

§ 188.10-6 Captain of the Port.

This term means an officer of the Coast Guard designated as such by the Commandant and who, under the superintendence and direction of the Coast Guard District Commander, gives immediate direction to Coast Guard law enforcement activities within his assigned area. In addition, the District Commander shall be the Captain of the Port with respect to remaining areas in his district not assigned to officers designated by the Commandant as Captain of the Port.

§ 188.10-7 Chemical stores.

This term means those chemicals intended for use in the performance of the vessel's scientific activities and is further defined in § 194.05-3.

§ 188.10-9 Chemical storeroom.

This term refers to any compartment specifically constructed or modified for the stowage of chemical stores and so designated and identified.

§ 188.10-11 Chemistry laboratory.

This term includes any space in which experiments are conducted or chemicals are used for scientific purposes in conjunction with the research mission of the vessel, and is so identified.

§ 188.10-13 Coast Guard District Commander.

This term means an officer of the Coast Guard designated as such by the Commandant to command all Coast Guard activities within his district, which include the inspection, enforcement, and administration of Title 52, Revised Statutes, and acts amendatory thereof or supplemental thereto, and rules and regulations thereunder.

§ 188.10-15 Coastwise.

Under this designation shall be included all vessels normally navigating the waters of any ocean or the Gulf of Mexico 20 nautical miles or less offshore.

§ 188.10-17 Combustible liquid.

This term includes any liquid whose flashpoint, as determined by an open cup tester, is above 80° F.

§ 188.10-19 Commandant.

This term means the Commandant of the Coast Guard.

TABLE 188.05-1(a)

Method of propulsion	Size or other limitations [1]	Classes of vessels (including motorboats) examined or inspected under various Coast Guard regulations [1]					
		Vessels inspected and certificated under Subchapter D—Tank Vessels [2]	Vessels inspected and certificated under either Subchapter H—Passenger Vessels [2 3 4 5] or subchapter T—Small Passenger Vessels [2 3 4]	Vessels inspected and certificated under Subchapter I—Cargo and Miscellaneous Vessels [2 5]	Vessels subject to provisions of Subchapter C—Uninspected Vessels [2 3 6 7 8]	Vessels subject to provisions of Subchapter U—Oceanographic Vessels [2 5 6 7 9]	Vessels subject to the provisions of Subchapter O—Certain Bulk Dangerous Cargoes [10]
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
Steam	Vessels not over 65 feet in length.	All vessels carrying combustible or flammable liquid cargo in bulk.	All vessels carrying more than 6 passengers. [7]	All tugboats and towboats.	All vessels except those covered by columns 3, 4, 5, and 7.	None	All vessels carrying in bulk the cargoes listed in table I of pt. 153 and table 4 of pt. 154. [12]
	Vessels over 65 feet in length.	All vessels carrying combustible or flammable liquid cargo in bulk. [5]	1. All vessels carrying more than 12 passengers on an international voyage, except yachts. 2. All vessels of not over 15 gross tons which carry more than 6 passengers. [7] 3. All other vessels carrying passengers, [7] except: a. Yachts. b. Documented cargo or tank vessels issued a permit to carry not more than 16 persons in addition to the crew.	All vessels except those covered by columns 3 and 4.	None	All vessels engaged in oceanographic research.	Do.

TABLE 188.05-1(a)—Continued

Method of propulsion	Size or other limitations [1]	Classes of vessels (including motorboats) examined or inspected under various Coast Guard regulations [1]					
		Vessels inspected and certificated under Subchapter D—Tank Vessels [2]	Vessels inspected and certificated under either Subchapter H—Passenger Vessels [2 3 4 5] or subchapter T—Small Passenger Vessels [2 3 4]	Vessels inspected and certificated under Subchapter I—Cargo and Miscellaneous Vessels [2 5]	Vessels subject to provisions of Subchapter C—Uninspected Vessels [2 3 6 7 8]	Vessels subject to provisions of Subchapter U—Oceanographic Vessels [2 5 6 7 9]	Vessels subject to the provisions of Subchapter O—Certain Bulk Dangerous Cargoes [10]
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
			c. Towing and fishing vessels, in other than ocean and coastwise service, may carry persons on the legitimate business of the vessel, in addition to crew, but not to exceed one for each net ton of the vessel.				
Motor	Vessels not over 15 gross tons.	All vessels carrying combustible or flammable liquid cargo in bulk.	All vessels carrying more than 6 passengers. [7]	Those vessels carrying dangerous cargoes when required by 46 CFR Part 98 or 146.	All vessels except those covered by columns 3, 4, 5, and 7.	None	Do.
	Vessels over 15 gross tons except seagoing motor vessels of 300 gross tons and over.	All vessels carrying combustible or flammable liquid cargo in bulk. [5]	1. All vessels carrying more than 12 passengers on an international voyage, except yachts. 2. All vessels not over 65 feet in length which carry more than 6 passengers. [7]	All vessels carrying freight for hire except those covered by columns 3 and 4.	All vessels except those covered by columns 3, 4, 5, and 7.	None	Do.

			3. All other vessels of over 65 feet in length carrying passengers for hire except documented cargo or tank vessels issued a permit to carry not more than 16 persons in addition to the crew.				
	Seagoing motor vessels of 300 gross tons and over.	All vessels carrying combustible or flammable liquid cargo in bulk.[5]	1. All vessels carrying more than 12 passengers on an international voyage, except yachts.. 2. All other vessels carrying passengers,[7] except: a. Yachts. .... b. Documented cargo or tank vessels issued a permit to carry not more than 16 persons in addition to the crew.	All vessels except those covered by columns 3 and 4, and those engaged in the fishing, oystering, clamming, crabbing, or any other branch of the fishery, kelp, or sponge industry.	All vessels except those covered by columns 3, 4, 5, and 7.	All vessels engaged in oceanographic research.	Do.
Sail	Vessels not over 700 gross tons.	All vessels carrying combustible or flammable liquid cargo in bulk.	All vessels carrying more than 6 passengers.[7]	Those vessels carrying dangerous cargoes when required by 46 CFR Part 98 or 146.	None..............................	None..............................	Do.
	Vessels over 700 gross tons.	All vessels carrying combustible or flammable liquid cargo in bulk.	All vessels carrying passengers for hire.	Those vessels carrying dangerous cargoes when required by 46 CFR Part 98 or 146.	None..............................	None..............................	Do.
Non-self-propelled	Vessels less than 100 gross tons.	All vessels carrying combustible or liquid cargo in bulk.	All vessels carrying more than 6 passengers.[7]	Those vessels carrying dangerous cargoes when required by 46 CFR Part 98 or 146.	All barges carrying passengers except those covered by column 4.	None..............................	All tank barges[11] carrying certain flammable and combustible liquid and liquified gases in bulk.

TABLE 188.05-1(a)—Continued

Method of propulsion	Size or other limitations [1]	Classes of vessels (including motorboats) examined or inspected under various Coast Guard regulations [1]					
		Vessels inspected and certificated under Subchapter D—Tank Vessels [2]	Vessels inspected and certificated under either Subchapter H—Passenger Vessels [2 3 4 5] or subchapter T—Small Passenger Vessels [2 3 4]	Vessels inspected and certificated under Subchapter I—Cargo and Miscellaneous Vessels [2 5]	Vessels subject to provisions of Subchapter C—Uninspected Vessels [2 3 6 7 8]	Vessels subject to provisions of Subchapter U—Oceanographic Vessels [2 5 6 7 9]	Vessels subject to the provisions of Subchapter O—Certain Bulk Dangerous Cargoes [10]
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
	Vessels 100 gross tons or over.	All vessels carrying combustible or flammable liquid cargo in bulk.	All vessels carrying passengers for hire.	All seagoing barges except those covered by columns 3 and 4; and those inland barges carrying dangerous cargoes when required by 46 CFR Part 98 or 146.	All barges carrying passengers except those covered by columns 4 and 7.	All seagoing barges engaged in oceanographic research.	Do.

[1] Where length is used in this table it means the length measured from end to end over the deck, excluding sheer. This expression means a straight line measurement of the overall length from the foremost part of the vessel to the aftermost part of the vessel, measured parallel to the centerline.

[2] Subchapters E (Load Lines), F (Marine Engineering), J (Electrical Engineering), and N (Dangerous Cargoes) of this chapter may also be applicable under certain conditions. The provisions of 46 U.S.C. 170 and Subchapter N (Dangerous Cargoes) of this chapter apply whenever explosives or dangerous articles or substances are on board vessels (including motorboats), except when specifically exempted by law.

[3] Public nautical schoolships, other than vessels of the Navy and Coast Guard, shall meet the requirements of Part 167 of Subchapter R (Nautical Schools) of this chapter. Civilian nautical schoolships, as defined by 46 U.S.C. 1331, shall meet the requirements of Subchapter H (Passenger Vessels) and Part 168 of Subchapter R (Nautical Schools) of this chapter.

[4] Subchapter H (Passenger Vessels) of this chapter covers only those vessels of 100 gross tons or more. Subchapter T (Small Passenger Vessels) of this chapter covers only those vessels of less than 100 gross tons.

[5] Vessels covered by Subchapter H (Passenger Vessels) or I (Cargo and Miscellaneous Vessels) of this chapter, where the principal purpose or use of the vessel is not for the carriage of liquid cargo, may be granted a permit to carry a limited amount of flammable or combustible liquid cargo in bulk. The portion of the vessel used for the carriage of the flammable or combustible liquid cargo shall meet the requirements of Subchapter D (Tank Vessels) in addition to the requirements of Subchapter H (Passenger Vessels) or I (Cargo and Miscellaneous Vessels) of this chapter.

[6] Any vessel on an international voyage is subject to the requirements of the International Convention for Safety of Life at Sea, 1960.

[7] The meaning of the term "passenger" is as defined in the Act of May 10, 1956 (Sec. 1, 70 Stat. 151; 46 U.S.C. 390). On oceanographic vessels scientific personnel on board shall not be deemed to be passengers nor seamen, but for calculations of lifesaving equipment, etc., shall be counted as persons.

[8] Boilers and machinery are subject to examination on vessels over 40 feet in length.

[9] Under 46 U.S.C. 441 an "oceanographic research vessel" is a vessel "* * * being employed exclusively in instruction in oceanography or limnology, or both, or exclusively in oceanographic research, * * *." Under 46 U.S.C. 443, "an oceanographic research vessel shall not be deemed to be engaged in trade or commerce." If or when an oceanographic vessel engages in trade or commerce, such vessel cannot operate under its certificate of inspection as an oceanographic vessel, but shall be inspected and certificated for the service in which engaged, and the scientific personnel aboard then become persons employed in the business of the vessel.

[10] Bulk dangerous cargoes are cargoes specified in table 151.01-10(b). In table I of pt. 153, and in table 4 of pt. 154 of this chapter.

[11] For manned tankbarges see sec. 151.01-10(c) of this chapter.

[12] Except those excluded under 46 U.S.C. 170 or 391a, as the case may be.

[CGFR 67-83, 33 FR 1113, Jan. 27, 1968, as amended at 42 FR 49027, Sept. 26, 1977; 43 FR 968, Jan. 5, 1978]

§ 188.10-21 Compressed gas.

This term includes any material or mixture having in the container an absolute pressure exceeding 40 p.s.i. at 70° F.; or regardless of the pressure at 70° F., having an absolute pressure exceeding 104 p.s.i. at 130° F.; or any liquid flammable material having a vapor pressure exceeding 40 p.s.i. absolute at 100° F. as determined by the Reid method covered by the American Society for Testing Materials Method of Test for Vapor Pressure of Petroleum Products (D-323). Compressed gases are discussed in more detail in Subpart 146.24 of Part 146 of Subchapter N (Dangerous Cargoes) of this chapter.

§ 188.10-23 Corrosive liquids.

(a) This term includes those acids, alkaline caustic liquids, and other corrosive liquids which, when in contact with living tissues, will cause severe damage of such tissues, by chemical action; or in case of leakage, will materially damage or destroy other freight by chemical action, or are liable to cause fire when in contact with organic matter or with certain chemicals.

(b) A corrosive substance may be:

(1) Solid, such as iodine; or,

(2) Liquid, such as acids, or caustic soda solution; or,

(3) Gaseous, such as chlorine or sulfur dioxide.

§ 188.10-25 Explosive.

This term means a chemical compound or mixture, the primary purpose of which is to function by explosion; i.e., with substantially instantaneous release of gas and heat. Explosives are discussed in more detail in Subpart 146.20 of Part 146 of Subchapter N (Dangerous Cargoes) of this chapter.

§ 188.10-27 Flammable liquid.

This term includes any liquid whose flashpoint, as determined by an open cup tester, is 80° F. or below.

§ 188.10-31 Great Lakes.

Under this designation shall be included all vessels navigating the Great Lakes.

§ 188.10-33 Headquarters.

This term means the Office of the Commandant, U.S. Coast Guard, Washington, D.C. 20951.

§ 188.10-35 International voyage.

(a) The term "international voyage" as used in this subchapter shall have the same meaning as that contained in Regulation 2(d), Chapter I of the International Convention for Safety of Life at Sea, 1960, i.e., "International voyage means a voyage from a country to which the present Convention applies to a port outside such country, or conversely; and for this purpose every territory for the international relations of which a contracting Government is responsible or for which the United Nations are the administering authority is regarded as a separate country."

(b) The International Convention for Safety of Life at Sea, 1960, does not apply to vessels "solely navigating the Great Lakes of North America and the River St. Lawrence as far east as a straight line drawn from Cap de Rosiers to West Point, Anticosti Island and, on the north side of Anticosti Island, the 63d Meridian." Accordingly, such vessels shall not be considered as being on an "international voyage" for the purpose of this subchapter.

(c) For the purposes of this subchapter the term "territory" as used in paragraph (a) of this section shall be considered to include the Commonwealth of Puerto Rico, all possessions of the United States, and all lands held by the United States under a protectorate or mandate.

(d) In addition, although voyages between the continental United States and Hawaii or Alaska, and voyages between Hawaii and Alaska are not "International voyages" under the provisions of the International Convention for Safety of Life at Sea, 1960, such voyages are similar in nature and shall be considered as "International voyages" and subject to the same requirements for the purposes of this subchapter.

[CGFR 67-83, 33 FR 1113, Jan. 27, 1968, as amended by CGD 80-123, 45 FR 64586, Sept. 30, 1980]

§ 188.10-37 Label.

This term means the caution label required by Part 146 of Subchapter N (Dangerous Cargoes) of this chapter and the regulations of the ICC to be affixed to outside containers of explosives or other dangerous articles or substances.

§ 188.10-39 Lakes, bays, and sounds.

Under this designation shall be included all vessels navigating the waters of any of the lakes, bays, or sounds, other than the waters of the Great Lakes.

§ 188.10-41 Liquefied compressed gas.

This term means a gas which, under the charged pressure, is partially liquid at a temperature of 70° F.

§ 188.10-43 Liquefied flammable gas.

This term means any flammable gas having a Reid vapor pressure exceeding 40 p.s.i. which has been liquefied.

§ 188.10-45 Marine inspector or inspector.

These terms mean any person from the civilian or military branch of the Coast Guard assigned under the superintendence and direction of an Officer in Charge, Marine Inspection, or any person as may be designated for the performance of duties with respect to the inspection, enforcement, and administration to Title 52, Revised Statutes, and acts amendatory thereof or supplemental thereto, and rules and regulations thereunder.

§ 188.10-47 Nuclear energy, radioactive material, and nuclear vessel.

(a) The term "nuclear energy" means all forms of energy released by nuclear fission or radioactive decay, or by any other form of nuclear transformation.

(b) The term "radioactive material" means any material or combination of materials that spontaneously emits ionizing radiation.

(c) The term "nuclear vessel" means any vessel in which power for propulsion, or for any other purpose, is derived from nuclear energy; or any vessel handling or processing substantial amounts of radioactive material other than as cargo.

[CGFR 68-82, 33 FR 18911, Dec. 18, 1968]

§ 188.10-49 Numbered vessel.

This term means a vessel which is numbered under the provisions of the Federal Boating Act of 1958 (46 U.S.C. 527-527h).

§ 188.10-51 Ocean.

Under this designation shall be included all vessels navigating the waters of any ocean, or the Gulf of Mexico more than 20 nautical miles offshore.

§ 188.10-52 Oceanographic research.

This term includes but is not limited to "such studies pertaining to the sea as seismic, gravity meter and magnetic exploration and other marine geophysical or geological surveys, atmospheric research, and biological research".

§ 188.10-53 Oceanographic vessel.

This term means an "oceanographic vessel" as defined in sections 441 and 442 of 46, U.S. Code, and is a vessel "employed exclusively in instruction in oceanography or limnology, or both, or exclusively in oceanographic research" or both. Such a vessel shall not be deemed to be engaged in trade or commerce (46 U.S.C. 443).

§ 188.10-55 Officer in Charge, Marine Inspection.

This term means any person from the civilian or military branch of the Coast Guard designated as such by the Commandant and who, under the superintendence and direction of the Coast Guard District Commander, is in charge of an inspection zone for the performance of duties with respect to the inspections, enforcement, and administration of Title 52, Revised Statutes, and acts amendatory thereof or supplemental thereto, and rules and regulations thereunder.

§ 188.10-57 Portable tank.

This phrase means a container having a capacity greater than 110 gallons, which is independent of the vessel's structure.

§ 188.10–59 Recognized classification society.

This term means the American Bureau of Shipping or other classification society recognized by the Commandant.

§ 188.10–61 Rivers.

Under this designation shall be included all vessels whose navigation is restricted to rivers and/or canals exclusively, and to such other waters as may be so designated by the Coast Guard District Commander.

§ 188.10–63 Rules of the Road.

(a) This term means the statutory and regulatory rules governing navigation of vessels. These rules are also published by the Coast Guard in pamphlet form as follows:

(1) Rules of the Road—International—Inland (CG-169).

(2) Rules of the Road—Great Lakes (CG-172).

(3) Rules of the Road—Western Rivers (CG-184).

(b) The current editions of the Rules of the Road pamphlets may be obtained from any Marine Inspection Office.

§ 188.10–65 Seagoing barge.

The phrase "every seagoing barge of one hundred gross tons or over" in subsections 395(a) and 395(b), Title 46 U.S. Code (Sec. 10, 35 Stat. 428, as amended), includes every non-self-propelled vessel of 100 gross tons or over, if such vessel will navigate the high seas or ocean. The phrase "non-self-propelled vessel" means a vessel without sufficient means for self-propulsion and is required to be towed.

§ 188.10–67 Scientific equipment.

This term means equipment installed or carried on board an oceanographic vessel and not normally required for the operation of a vessel or its machinery or for the navigation of the vessel, and which is used primarily in the gathering of scientific data or samples or in processing, analyzing, preserving, or storing such data or samples.

§ 188.10–69 Scientific laboratory.

This term means those spaces on board an oceanographic research vessel used primarily for scientific experimentation or research, and are so identified.

§ 188.10–71 Scientific personnel.

This term means those persons who are aboard an oceanographic vessel solely for the purpose of engaging in scientific research, or in instructing, or receiving instruction, in oceanography or limnology, and shall not be considered seamen under the provisions of Title 53 of the Revised Statutes and acts amendatory thereof or supplementary thereto.

§ 188.10–73 Ships' stores and supplies.

This term means any article or substance which is used on board a vessel subject to the appropriate portions of Parts 146 or 147 of Subchapter N (Dangerous Cargoes) of this chapter for the upkeep and maintenance of the vessel; or for the safety or comfort of the vessel, its passengers or crew; or for the operation or navigation of the vessel (except fuel for its own machinery).

§ 188.10–75 Undocumented vessel.

This term means any vessel which is not required to have, and does not have, a valid marine document issued by the U.S. Coast Guard.

§ 188.10–77 Vessel.

Where the word "vessel" is used in this subchapter, it shall be considered to include all inspected and certificated oceanographic vessels as listed in Column 7 of Table 188.05-1(a).

Subpart 188.15—Equivalents

§ 188.15–1 Conditions under which equivalents may be used.

(a) Where in this subchapter it is provided that a particular fitting, material, appliance, apparatus, or equipment, or type thereof, shall be fitted or carried in a vessel, or that any particular provision shall be made or arrangement shall be adopted, the Commandant may accept in substitution therefor any other fitting, material, apparatus, or equipment, or type thereof, or any other arrangement: *Provided,* That he shall have been satisfied by suitable trials that the fitting, material, appliance, apparatus, or equipment, or type thereof, or the provision or arrangement is at least as effective as that specified in this subchapter.

(b) In any case where it is shown to the satisfaction of the Commandant that the use of any particular equipment, apparatus, or arrangement not specifically required by law is unreasonable or impracticable, the Commandant may permit the use of alternate equipment, apparatus, or arrangement to such an extent and upon such conditions as will insure, to his satisfaction, a degree of safety consistent with the minimum standards set forth in this subchapter.

§ 188.15-5 Design of vessels.

(a) In order not to inhibit design and application the Commandant may accept vessels of unusual, unique, special, or exotic design, both new and for conversion, after it is shown to his satisfaction that such a vessel is at least as safe as any vessel which meets the standards required by this subchapter.

Subpart 188.20—General Marine Engineering Requirements

§ 188.20-1 Marine engineering details.

(a) The marine engineering details shall be in accordance with Subchapter F (Marine Engineering) of this chapter.

Subpart 188.25—General Electrical Engineering Requirements

§ 188.25-1 Electrical engineering details.

(a) The electrical engineering details shall be in accordance with Subchapter J (Electrical Engineering) of this chapter.

Subpart 188.35—American Bureau of Shipping's Standards

§ 188.35-1 Standards to be used.

(a) Where in this subchapter an item, or method of construction, or testing is required to meet the standards established by the American Bureau of Shipping, the current standards in effect at the time of construction of the vessel, or otherwise as applicable, shall be used.

(b) The current standards of other recognized classification societies may also be accepted upon approval by the Commandant.

§ 188.35-5 Where obtainable.

(a) The standards established by the American Bureau of Shipping are usually published annually and may be purchased from the American Bureau of Shipping, 45 Broad Street, New York, N.Y. 10004.

(b) These standards may also be examined at the Office of the Commandant (M), U.S. Coast Guard, Washington, D.C., or at the Office of any Coast Guard District Commander or Officer in Charge, Marine Inspection.

PART 189—INSPECTION AND CERTIFICATION

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189.60-35 Posting of Convention certificates.
189.60-40 Duration of certificates.
189.60-45 American Bureau of Shipping.

AUTHORITY: R.S. 4405, as amended, 4462, as amended, sec. 5, 79 Stat. 424; 46 U.S.C. 375, 416, 445. Interpret or apply R.S. 4417, as amended, 4418, as amended, 4472, as amended, 4488, as amended, 4491, as amended, sec. 10, 35 Stat. 428, as amended, 41 Stat. 305, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 17, 54 Stat. 166, as amended, sec. 6(b)(1), 80 Stat. 938; 46 U.S.C. 391, 392, 170, 481, 489, 395, 363, 367, 526p, 49 U.S.C. 1655(b), E.O. 11239; 3 CFR, 1964-1965 Comp.; 49 CFR 1.4(a)(2), unless otherwise noted.

SOURCE: CGFR 67-83, 33 FR 1118, Jan. 27, 1968, unless otherwise noted.

Subpart 189.01—Certificate of Inspection

AUTHORITY: R.S. 4421, as amended, 4423, as amended, sec. 12, 35 Stat. 428, as amended; 46 U.S.C. 399, 400, 397.

§ 189.01-1 When required.

(a) Except as noted in this subpart or Subpart 189.05 of this part, no vessel subject to inspection and certification shall be operated without a valid certificate of inspection.

§ 189.01-5 Posting.

(a) The original certificate of inspection shall, in general, be framed under glass or other transparent material and posted in a conspicuous place where it will be most likely to be observed. On other vessels such as barges, where the framing of the certificate under glass would be impracticable, the original certificate of inspection shall be kept on board to be shown on demand.

§ 189.01-10 Period of validity.

(a) Certificates of inspection will be issued for periods of either 1 or 2 years. For nuclear vessels it shall be for a period of 1 year; see also § 99.10-1 of Subchapter I (Cargo and Miscellaneous Vessels) of this chapter. Application may be made by the master, owner, or agent for inspection and issuance of a new certificate of inspection at any time during the period of validity of the current certificate. For nuclear vessels see Part 99 of Subchapter I (Cargo and Miscellaneous Vessels) of this chapter.

(b) Certificates of inspection may be revoked or suspended by the Coast Guard where such process is authorized by law. This may occur if the vessel does not meet the requirements of law or regulations in this chapter or if there is a failure to maintain the safety requirements requisite to the issuance of a certificate of inspection.

(c)(1) In the case of the following vessels, modification of the period of validity of the certificate of inspection will be permitted as set forth in this paragraph:

(i) Non-self-propelled vessels of 100 gross tons and over proceeding on the high seas or ocean for the sole purpose of changing place of employment.

(ii) Non-self-propelled vessels of 100 gross tons and over making rare or infrequent voyages on the high seas or ocean and returning to the port of departure.

(2) The certificate of inspection may be issued for a specific period of time to cover a described situation or for one voyage only but in no case to exceed 2 years. The certificate of inspection will include the conditions under which the vessel must operate. Unless the vessel is in compliance with this subchapter insofar as it applies to seagoing barges of 100 gross tons and over, such vessel shall not carry any person on board while underway, and the certificate of inspection will be endorsed as an unmanned seagoing barge.

(Sec. 2, 23 Stat. 118, as amended, secs. 2, 633, 63 Stat. 496, 545; 46 U.S.C. 2, 14 U.S.C. 2, 633)

[CGFR 67-83, 33 FR 1118, Jan. 27, 1968, as amended by CGFR 68-82, 33 FR 18911, Dec. 18, 1968]

§ 189.01-15 Temporary certificate.

(a) If necessary to prevent delay of the vessel, a temporary certificate of inspection, Form CG-854, shall be issued pending the issuance and delivery of the regular certificate of inspection. Such temporary certificate shall be carried in the same manner as the regular certificate and shall in all ways be considered the same as the regular certificate of inspection which it represents.

Subpart 189.05—Permit To Proceed to Another Port for Repair

AUTHORITY: R.S. 4458, as amended; 46 U.S.C. 435.

§ 189.05-1 When issued.

(a) The Officer in Charge, Marine Inspection, may issue a permit to proceed to another port for repair, Form CG-948, to a vessel, if in his judgment it can be done with safety, even if the certificate of inspection of the vessel has expired or is about to expire.

§ 189.05-5 To whom issued.

(a) Such permit will only be issued upon the written application of the master, owner, or agent of the vessel.

§ 189.05-10 Conditions of permit.

(a) The permit will state upon its face the conditions under which it is issued.

§ 189.05-15 Posting.

(a) The permit shall be carried in a manner similar to that described in § 189.01-5 for a certificate of inspection.

Subpart 189.15—Inspection of Vessels

§ 189.15-1 Standard in inspection of hulls, boilers, and machinery.

(a) In the inspection of hulls, boilers, and machinery of vessels, the standards established by the American Bureau of Shipping, see Subpart 188.35 of Part 188 of this subchapter, respecting material and construction of hulls, boilers, and machinery, and the certificate of classification referring thereto, except where otherwise provided for by the rules and regulations in this subchapter, Subchapter E (Load Lines), Subchapter F (Marine Engineering), or Subchapter J (Electrical Engineering) of this chapter shall be accepted as standard by the inspectors.

Subpart 189.20—Initial Inspection

§ 189.20-1 Prerequisite of certificate of inspection.

(a) The initial inspection is a prerequisite of the issuance of the original certificate of inspection.

§ 189.20-5 When made.

(a) The initial inspection will only be made upon the written application of the owner or builder of the vessel to the Officer in Charge, Marine Inspection, on Form CG-3752, Application for Inspection of U.S. Vessel, at or nearest the port where the vessel is located.

§ 189.20-10 Plans.

(a) Before application for inspection is made, and before construction is started, the owner or builder shall have plans approved by the Commandant indicating the proposed arrangement and construction of the vessel.

(b) The procedure for submitting plans and the list of plans to be supplied is set forth in Subpart 189.55 of this part.

§ 189.20-15 Scope of inspection.

(a) The initial inspection, which may consist of a series of inspections during the construction of a vessel, shall include a complete inspection of the structure, machinery, and equipment, except scientific equipment which does not affect the safety of the vessel or personnel, but including the outside of the vessel's bottom, and the inside and outside of the boilers and unfired pressure vessels. The inspection shall be such as to insure that the arrangements, materials, and scantlings of the structure, boilers and other pressure vessels and their appurtenances, piping, main and auxiliary machinery, electrical installations, lifesaving appliances, fire detecting and extinguishing equipment, pilot ladders, pollution prevention equipment, and other equipment fully comply with the applicable regulations for such vessel and are in accordance with approved plans, and determine that the vessel is in possession of a valid certificate issued by the Federal Communications Commission, if any. The inspection shall also be such as to insure that the workmanship of all parts of the vessel and its equipment is in all respects satisfactory, and that the vessel is provided with lights, means of making sound signals and distress signals as required by applicable regulations and the applicable "Rules of the Road."

(b) When equipment other than scientific equipment is installed which is not required by the applicable regulations in this subchapter, that equipment shall be inspected and tested as may be required for such equipment by the Officer in Charge, Marine Inspection, to assure safety.

(1) The electrical or pressure connections to the ship's supply shall be designed to marine standards and shall be free of personnel hazards.

(2) Scientific equipment will not be inspected but will be examined for ex-

ternal hazards associated with connection to the vessel, dangerous moving parts, extremes in temperature and shock.

(c) For nuclear vessels, the inspections required by this section shall be made except insofar as they may be limited by the presence of radiation. In addition, the inspection shall include any special preoperational tests and inspections prescribed by the Atomic Energy Commission in its operating license, by the nuclear plant operating procedures, or by the vessel's Safety Assessment. See Part 99 of Subchapter I (Cargo and Miscellaneous Vessels) of this chapter.

(Sec. 311(j)(1)(C), 86 Stat. 816, 868, 83 Stat. 852 (33 U.S.C. 1161(j)(1)(C)) (42 U.S.C. 4321, et seq.). E.O. 11548; 3 CFR 1966-1970 Comp., p. 949; 49 CFR 1.46(m))

[CGFR 67-83, 33 FR 1118, Jan. 27, 1968, as amended by CGFR 68-82, 33 FR 18911, Dec. 18, 1968; CGD 71-161R, 37 FR 28263, Dec. 21, 1972]

§ 189.20-20 Specific tests and inspections.

(a) The applicable tests and inspections as set forth in Subpart 189.25 of this part shall be made at this time. In addition, the following specific tests and inspections shall be made by the marine inspector.

(1) Installation of lifeboats, davits, and winches. See Subpart 192.35 of this subchapter.

(2) Installation of carbon dioxide extinguishing piping. See § 193.15-15 of this subchapter.

(3) Marine engineering equipment and systems. See Subchapter F (Marine Engineering) of this chapter.

(4) Electrical engineering equipment and systems. See Subchapter J (Electrical Engineering) of this chapter.

§ 189.20-25 Chemical and explosive hazards.

(a) If installed, the marine inspector shall examine the laboratories, storerooms, magazines, vans, and chests to insure that hazards are minimized.

Subpart 189.25—Inspection for Certification

§ 189.25-1 Prerequisite of reissuance of certificate of inspection.

(a) An inspection for certification is a prerequisite of the reissuance of a certificate of inspection.

§ 189.25-5 When made.

(a) The inspection for certification will be made only upon written application of the master, owner, or agent of the vessel on Form CG-3752, Application for Inspection of U.S. Vessel, to the Officer in Charge, Marine Inspection, at or nearest the port where the vessel is located.

§ 189.25-10 Scope of inspection.

(a) The inspection for certification shall include an inspection of the structure, boilers, and other pressure vessels, machinery, and equipment. The inspection shall be such as to insure that the vessel, as regards the structure, boilers, and other pressure vessels and their appurtenances, piping, main and auxilliary machinery, electrical installations, life-saving appliances, fire detecting and extinguishing equipment, pilot ladders, pollution prevention equipment, and other equipment, is in satisfactory condition and fit for the service for which it is intended, and that it complies with the applicable regulations for such vessel, and determine that the vessel is in possession of a valid certificate issued by the Federal Communications Commission, if required. The lights and means of making sound signals carried by the vessel shall also be subject to the above-mentioned inspection for the purpose of insuring that they comply with the requirements of the applicable regulations and the applicable "Rules of the Road."

(b) For nuclear vessels, the inspections required by this section shall be made except insofar as they may be limited by the presence of radiation. See also Subpart 99.10 of Subchapter I (Cargo and Miscellaneous Vessels) of this chapter.

(c) When equipment other than scientific equipment is installed which is not required by the applicable regulations in this subchapter, that equipment shall be inspected and tested as may be required for such equipment by the Officer in Charge, Marine Inspection, to assure safety.

(1) Scientific equipment and their electrical or pressure connection to the ship's supply and laboratories may be checked to ascertain that they are maintained free of hazards.

(Sec. 311(j)(1)(C) of the Federal Water Pollution Control Act, 86 Stat. 816, 868; National Environmental Policy Act of 1969, 83 Stat. 852; 33 U.S.C. 1161(j)(1)(C), 42 U.S.C. 4321, et seq.; E.O. 11548; 3 CFR, 1966-1970 Comp., p. 949; 49 CFR 1.46(m))

[CGFR 67-83, 33 FR 1118, Jan. 27, 1968, as amended by CGFR 68-82, 33 FR 18911, Dec. 18, 1968; CGD 71-161R, 37 FR 28263, Dec. 21, 1972]

§ 189.25-15 Lifesaving equipment.

(a) At each inspection for certification, except as modified in paragraph (a)(2) of this section, the marine inspector shall conduct the following tests and inspections of lifesaving equipment:

(1) It shall be demonstrated that the air tanks of all lifesaving appliances are airtight.

(2) Each lifeboat shall be lowered to near the water and then be loaded with its allowed capacity, evenly distributed throughout the length, and then be lowered into the water until it is afloat, and be released from the falls. In making this test persons or deadweight may be used. The total weight used shall be at least equal to the allowed capacity of the lifeboat considering persons to weigh 165 pounds each. This test shall be made at least once in each 2-year period. If practicable it shall be made at the inspection for certification or at a reinspection.

(3) Each life preserver shall be examined to determine its serviceability. If found to be satisfactory, it will be stamped "Passed," together with the date, the port, and the inspector's initials. If not in a serviceable condition, the life preserver shall be removed from the vessel, and if beyond repair, shall be destroyed in the presence of the inspector.

(4) All lifeboat winch electrical control apparatus shall be opened up and inspected.

(5) Where gravity davits are installed, it shall be demonstrated that the lifeboat can be swung out and lowered from any stopped position by merely releasing the brake on the lifeboat winch. The use of force to start the davits or the lifeboat winch will not be permitted.

(6) Inflatable liferafts shall be serviced at an approved servicing facility in accordance with the provisions of Subpart 160.051 of Subchapter Q (Specifications) of this chapter. Inflatable liferafts shall be serviced at an approved servicing facility every 12 months or not later than the next vessel inspection for certification provided the total time since date of last servicing does not exceed 15 months. The period for servicing is computed from the date of last servicing. Except in emergencies no servicing should be done aboard vessels. If at any time external damage is found to the container or straps or if the seal is broken, the Officer in Charge, Marine Inspection, shall be notified and the raft may be required to be serviced by an approved servicing facility.

Note: After the raft has been satisfactorily serviced in the presence of a marine inspector at an approved servicing facility, the raft is repacked and sealed and the carrying case stamped "PASSED" together with the date, port, and the marine inspector's initials.

(7) All other items of lifesaving equipment shall be examined to determine that they are in suitable condition.

(8) A hydraulic release used in the installation of any liferaft, inflatable liferaft, lifefloat, or buoyant apparatus shall undergo the periodic servicing and testing required by Subpart 160.062 of Subchapter Q (Specifications) of this chapter every 12 months which may be extended to 15 months as determined by the date shown on its inspection tag. The springs of a spring-tensioned gripe used in such an installation shall be renewed when the accompanying hydraulic release is serviced and tested.

(b) At each inspection for certification, and more often if necessary, a marine inspector inspects each exposure suit on a vessel to determine its serviceability. Each exposure suit found not to be in a serviceable condition must be removed from the vessel.

[CGFR 67-83, 33 FR 1118, Jan. 27, 1968, as amended by CGFR 68-32, 33 FR 5729, Apr. 12, 1968; GCD 76-033a, 45 FR 24487, Apr. 10, 1980]

§ 189.25-20 Fire-extinguishing equipment.

(a) At each inspection for certification and at such other times as considered necessary the inspector shall determine that all fire-extinguishing equipment is in suitable condition and he may require such tests as are considered necessary to determine the condition of the equipment. The inspector shall determine if the tests and inspections required by § 196.15-60 of this subchapter have been conducted. At each inspection for certification the inspector shall conduct the following tests and inspections of fire-extinguishing equipment:

(1) All hand portable fire extinguishers and semiportable fire-extinguishing systems shall be checked as noted in Table 189.25-20(a)(1). In addition, the hand portable fire-extinguishers and semiportable fire-extinguishing systems shall be examined for excessive corrosion and general condition.

TABLE 189.25-20(a)(1)

Type unit	*Test*
Soda acid	Discharge. Clean hose and inside of extinguisher thoroughly. Recharge.
Foam	Discharge. Clean hose and inside of extinguisher thoroughly. Recharge.
Pump tank (water or antifreeze).	Discharge. Clean hose and inside of extinguisher thoroughly. Recharge with clean water or antifreeze.
Cartridge operated (water, antifreeze, or loaded stream).	Examine pressure cartridge and replace if end is punctured or if cartridge is otherwise determined to have leaked or to be in unsuitable condition. Remove liquid. Clean hose and inside of extinguisher thoroughly. Recharge with water, solution, or antifreeze. Insert charged cartridge.
Carbon dioxide	Weigh cylinders. Recharge if weight loss exceeds 10 percent of weight of charge. Inspect hose and nozzle to be sure they are clear. [1]
Dry chemical (cartridge-operated type).	Examine pressure cartridge and replace if end is punctured or if cartridge is otherwise determined to have leaked or to be in unsuitable condition. Inspect hose and nozzle to see they are clear. Insert charged cartridge. Be sure dry chemical is free-flowing (not caked) and chamber contains full charge.
Dry chemical (stored pressure type).	See that pressure gage is in operating range. If not, or if seal is broken, weigh or otherwise determine that full charge of dry chemical is in extinguisher. Recharge if pressure is low or if dry chemical is needed.
Vaporizing liquid [2]	

[1] Cylinders must be tested and marked and all flexible connections and discharge hoses of semiportable carbon dioxide systems must be tested or renewed as required by §147.04-1 of Subchapter N (Dangerous Cargoes) of this chapter.

[2] Vaporizing-liquid type fire extinguishers containing carbon tetrachloride or chlorobromomethane or other toxic vaporizing liquids are not permitted.

(2) Fixed fire-extinguishing systems shall be checked as noted in Table 189.25-20(a)(2). In addition, all parts of the fixed fire-extinguishing systems shall be examined for excessive corrosion and general conditions.

TABLE 189.25-20(a)(2)

Type system	*Test*
Foam	Systems utilizing a soda solution shall have such solution replaced. In all cases, ascertain that powder is not caked.
Carbon dioxide	Weigh cylinders. Recharge if weight loss exceeds 10 percent of weight of charge. [1]

[1] Cylinders must be tested and marked and all flexible connections and discharge hoses of semiportable carbon dioxide systems must be tested or renewed as required by §147.04-1 of Subchapter N (Dangerous Cargoes) of this chapter.

NOTE: Section 147.04-1 of Subchapter N of this chapter includes requirements that such cylinders shall be retested and re-marked under the following conditions; (1) Whenever a cylinder is recharged or for any cause removed from a vessel subsequent to 5 years from the latest test date stamped on the shoulder of the cylinder; or (2) whenever a cylinder remains in place on a vessel for 12 years from the latest test date stamped on the shoulder of the cylinder. Cylinders retested under any of the above conditions shall have new or renewed valve and safety relief devices of the proper design installed in the cylinder.

(3) On all fire-extinguishing systems all piping, controls, valves, and alarms shall be checked to ascertain that the system is in operating condition.

(4) The fire main system shall be operated and the pressure checked at the outlets having the greatest pressure drop between the fire pumps and the nozzles which may not always be the most remote and highest outlets. All

firehoses shall be subjected to a test pressure equivalent to the maximum pressure to which they may be subjected in service, but not less than 100 p.s.i.

(46 U.S.C. 375, 390b, 391a, 416, 481; 49 U.S.C. 1655(b); 49 CFR 1.46)

[CGFR 67-83, 33 FR 1118, Jan. 27, 1968, as amended by CGD 78-154, 44 FR 13492, Mar. 12, 1979]

§ 189.25-25 Hull equipment.

(a) At each inspection for certification the inspector shall conduct the following tests and inspections of hull equipment:

(1) All watertight doors shall be operated locally by manual power and also by hydraulic or electric power if so fitted. Where remote control is fitted, the doors shall also be operated by the remote control apparatus.

(2) The remote controls of all valves shall be operated.

(3) An examination of installed weight, handling gear and related shipboard records shall be made to ascertain the condition and suitability of the equipment for the service intended. In conducting this examination the marine inspector shall be guided by the provisions of Subpart 189.35. Current valid certificates and registers, issued by a recognized nonprofit organization or association approved by the Commandant, may be accepted as prima facie evidence of the condition and suitability of the weight handling gear. Weight handling gear certificates and registers will not be issued by the Coast Guard.

§ 189.25-30 Electrical engineering equipment.

(a) For inspection procedures of Electrical Engineering equipment and systems, see Subchapter J (Electrical Engineering) of this chapter.

§ 189.25-35 Marine engineering equipment.

(a) For inspection procedures of Marine Engineering equipment and systems, see Subchapter F (Marine Engineering) of this chapter.

§ 189.25-38 Pollution prevention.

At each inspection for certification, the inspector shall examine the vessel to determine that it meets the vessel design and equipment requirements for pollution prevention in 33 CFR Part 155, Subpart B.

(Sec. 311(j)(1) (C) and (D), 86 Stat. 816, 868, 83 Stat. 852 (33 U.S.C. 1161(j)(1) (C) and (D)) (42 U.S.C. 4321, et seq.). E.O. 11548; 3 CFR, 1966-1970 Comp., p. 949; 49 CFR 1.46(m))

[CGD 71-161R, 37 FR 28263, Dec. 21, 1972]

§ 189.25-40 Sanitary inspection.

(a) At each inspection for certification, the quarters, toilets, and washing spaces, galleys, serving pantries, lockers, etc., shall be examined by the marine inspector to be assured that they are in a sanitary condition.

(Sec. 4, 49 Stat. 1935, as amended; 46 U.S.C. 660a).

§ 189.25-45 Fire hazards.

(a) At each inspection for certification, the inspector shall examine the tank tops and bilges in the machinery spaces to see that there is no accumulation of oil which might create a fire hazard.

§ 189.25-47 Chemical and explosive hazards.

(a) The marine inspector shall inspect every chemistry laboratory, scientific laboratory, and chemical storeroom during each inspection for certification.

(b) Magazines, vans, and chests shall be inspected during each inspection for certification.

§ 189.25-50 Inspector not limited.

(a) Nothing in this subpart shall be construed as limiting the inspector from making such tests or inspections as he deems necessary to be assured of the safety and seaworthiness of the vessel.

Subpart 189.27—Reinspection

§ 189.27-1 When made.

(a) At least one reinspection shall be made on each vessel holding a certificate of inspection valid for 2 years. This reinspection will be made, where possible, between the 10th and 14th months of the period for which the certificate is valid.

(b) No written application for reinspection will be required.

§ 189.27-5 Scope.

(a) In general, the scope of the reinspection shall be the same as for the inspection for certification, but will be in less detail unless it is determined that a major change has occurred since the last inspection.

§ 189.27-10 Deficiencies in maintenance.

(a) If the reinspection reveals deficiencies in the maintenance as called for by the regulations in this subchapter, such necessary repairs or improvements shall be made as may be ordered.

§ 189.27-15 Inspector not limited.

(a) Nothing in this subpart shall be construed as limiting the marine inspector from making such tests or inspections as he deems necessary to be assured of the seaworthiness of the vessel.

Subpart 189.30—Inspection After Accident

§ 189.30-1 General or partial survey.

(a) A survey, either general or partial, according to the circumstances, shall be made every time an accident occurs or a defect is discovered which affects the safety of the vessel or the efficacy or completeness of its lifesaving appliances, firefighting or other equipment, or whenever any important repairs or renewals are made. The survey shall be such as to insure that the necessary repairs or renewals have been effectively made, that the material and the workmanship of such repairs or renewals are in all respects satisfactory, and that the vessel complies in all respects with the regulations in this subchapter.

(R.S. 4450, as amended; 46 U.S.C. 239)

Subpart 189.33—Sanitary Inspections

§ 189.33-1 When made.

(a) An inspection of quarters, toilet and washing spaces, serving pantries, galleys, etc., shall be made at least once in every month. If the route of the vessel is such that it is away from a U.S. port for more than 1 month, an inspection shall be conducted at least once every trip.

(Sec. 4, 49 Stat. 1935, as amended; 46 U.S.C. 660a)

Subpart 189.35—Weight Handling Gear

§ 189.35-1 Application.

(a) The requirements of this subpart shall apply to all weight handling gear installed on oceanographic research vessels except weight handling gear designated to handle primary lifesaving equipment. Weight handling gear designated for this use shall meet the applicable portions of Subchapter I (Cargo and Miscellaneous Vessels) of this chapter.

(b) Weight handling gear placed under the inspection and testing required for cargo gear by the classification society or cargo gear bureaus recognized in Subchapter I (Cargo and Miscellaneous Vessels) of this chapter may be considered as having met the intent of this subpart.

§ 189.35-3 Intent.

(a) In recognition of the special nature of oceanographic research vessel operations, it is intended that maximum flexibility be given to the owner or operator in complying with the safety requirements for weight handling gear in this subpart. The primary interest of the Coast Guard shall extend to hazards associated with the connections to the vessel, dangerous moving parts, extremes in temperature and shock hazards.

§ 189.35-5 Tests.

(a) An installation load test and safety assessment shall be conducted by the owner or operator. Section 189.35-13 may be used as a guide for the safety assessment. It shall be the responsibility of the owner or operator to notify the Officer in Charge, Marine Inspection, of the time and place of the installation tests when occurring in a port of the United States to permit a marine inspector to witness the tests if desired. Subsequent owner or operator conducted tests may be required at the time of the vessel's inspection periods if a visual examination or review of the equipment record reveals evidence of an unsafe condition. Tests should normally consist of exercising the equipment as a unit with a proof load 25 percent in excess of the equipment's normal working load, however manufacturer's design limitations should not be exceeded. Consideration shall be given to the plans of loading when conducting these tests. Braking, safety and limiting devices shall be tested whenever feasible.

§ 189.35-7 Examinations.

(a) Examination of weight handling gear will normally consist of a visual examination with access covers removed. Suitability of the equipment for the service intended will be emphasized. Disassembly of the equipment will be required only when there is evidence of a deficiency or an unsafe condition. Non-destructive tests, such as radiography, ultrasonic, electronic, or other methods may be used if appropriate, however will not be required.

§ 189.35-9 Plans.

(a) Plans will not normally be required, however depending on the use of the weight handling gear, submission of plans or other technical information may be required by the Officer in Charge, Marine Inspection. Unless an unsafe condition is in evidence, vessel operations will not be delayed while plans or other technical information are under review. Plans, when required, shall normally include:

(1) One line electrical diagrams showing appropriate overload protection as currently required by Subchapter J (Electrical Engineering) of this chapter.

(2) Plans showing hydraulic or pneumatic equipment.

(3) Stress and/or arrangement diagrams with supporting design calculations as appropriate to the specific equipment in question.

(b) When weight handling gear is built to a recognized code or specification, plans or other technical data will not normally be required. Purchase specification or vendor's information may be accepted in lieu of design calculations if sufficiently definitive of materials, design (safety) factors and operating limitations.

(c) Design information, when required, will be evaluated against the following minimum design criteria:

(1) Wet Weight Handling Gear: Wet gear shall be considered to consist of gear used to lower equipment, apparatus or objects beneath the surface of the water or for trailing objects, where the wire rope or cable is payed out beneath the surface and becomes part of the line pull at the head sheave or winch drum. Wet gear shall be designed, as a minimum, to withstand and operate in excess of the breaking strength of the strongest section or wire to be used in any condition of loading. The safety factor for all metal structural parts shall be a minimum of 1.5; i.e., the yield strength of the material shall be at least 1.5 times the calculated stresses resulting from application of a load equal to the nominal breaking strength of the strongest section or wire rope to be used. Suitable assumptions for the actual loading conditions shall be used in the design of wet gear. The lead of the wire rope from the head sheave or winch drum shall be considered to vary from the vertical and in azimuth in a manner to represent the most adverse loading condition.

(2) Other weight handling gear will be evaluated on the basis of the safety factors set forth in § 91.37-25 of Subchapter I (Cargo and Miscellaneous Vessels) of this chapter.

(3) Hydraulic or pneumatic systems will be evaluated on the basis of Subchapter F (Marine Engineering) of this chapter.

[CGFR 67-83, 33 FR 1118, Jan. 27, 1968, as amended by CGFR 69-116, 35 FR 6863, Apr. 30, 1970]

§ 189.35-11 Special cases.

(a) If the above safety requirements defeat the purpose of any particular piece of weight handling gear, consideration will be given to a relaxation of the requirements.

§ 189.35-13 Master's responsibility.

(a) The master of the vessel shall ensure the following:

(1) The gear is properly installed and secure.

(2) Suitable safety guards are installed in way of rotating machinery, hazardous cable runs and at other appropriate locations.

(3) Operating limitations are posted in an appropriate manner.

(4) Only qualified operators are permitted to operate the weight handling gear. The master shall designate the operators.

(5) A minimum number of persons are allowed in the immediate area.

(6) The installation does not violate the approved trim and stability information.

(7) A suitable permanent record is maintained on the equipment as appropriate showing such items as inspections, tests, important repairs and casualties experienced. This record shall be made available to the Officer in Charge, Marine Inspection, upon request.

(b) Prior to a vessel's departure, an entry shall also be made in the official logbook that the ship's weight handling gear is in compliance with the applicable requirements in this subchapter.

§ 189.35-15 Major installations.

(a) Where the installation of weight handling gear requires modifications to the vessel's structure or affects the stability in a manner which cannot be assessed by the information contained in the approved trim and stability information, appropriate plans and information shall be submitted for approval. The installation shall then be inspected by the Officer in Charge, Marine Inspection for conformance with the approved installation plans and information.

§ 189.35-90 Weight handling gear manufactured prior to March 1, 1968.

(a) Weight handling gear manufactured prior to March 1, 1968, will be accepted on the basis of appropriate tests and examinations should plans or other technical information not be available.

Subpart 189.40—Drydocking

§ 189.40-1 When required.

(a) Except for extensions as authorized by the Commandant, all vessels shall be placed in drydock or hauled out for examination within the periods set forth in this paragraph, depending upon the service.

(1) Each vessel should be drydocked or hauled out at intervals not to exceed 24 months if it operates in salt water an aggregate of more than 12 months in the 24-month period since it was last drydocked or hauled out.

(2) Each vessel shall be drydocked or hauled out at intervals not to exceed 36 months if it operates in salt water an aggregate of more than 3 months but not more than 6 months in each 12-month period since it was last drydocked or hauled out. When a vessel exceeds an aggregate of 6 months service in salt water in any 12-month period since it was last drydocked or hauled out, it shall be drydocked or hauled out within 6 months after the end of that period or within the 36-month interval, whichever is earlier.

(3) Each vessel shall be drydocked or hauled out at intervals of 48 months if it operates in salt water an aggregate of more than 1 month but not more than 3 months in each 12-month period since it was last drydocked or hauled out.

(4) Each vessel shall be drydocked or hauled out at intervals not to exceed 60 months if it operates exclusively in fresh water or if it operates in salt water an aggregate not exceeding 1 month in each 12-month period since it was last drydocked or hauled out.

§ 189.40-5 Notice by owner.

(a) The master, owner, or agent shall notify the Officer in Charge, Marine Inspection, when any vessel is to be placed on a drydock in order that an examination of the underwater portion of the vessel may be made if deemed necessary.

Subpart 189.45—Repairs and Alterations

§ 189.45-1 Notice required.

(a) No repairs or alterations affecting the stability or safety of the vessel with regard to the hull, machinery, and equipment shall be made without the knowledge of the Officer in Charge, Marine Inspection.

(b) Drawings of alterations shall be approved before work is started unless deemed unnecessary by the Officer in Charge, Marine Inspection.

(c) Drawings will not be required for repairs in kind.

(d) Notice is not required for repairs or alterations to scientific equipment where the stability or safety of the vessel with regard to the hull and machinery or equipment is not affected.

§ 189.45-5 Inspection required.

(a) An inspection, either general or partial depending upon the circumstances, shall be made whenever any important repairs or alterations are undertaken.

Subpart 189.50—Special Operating Requirements

§ 189.50-1 Inspection and testing required when making alterations, repairs, or other such operations involving riveting, welding, burning, or like fire-producing actions.

(a) The provisions of "Standard for the Control of Gas Hazards on Vessels To Be Repaired," NFPA No. 306, published by National Fire Protection Association, 60 Batterymarch Street, Boston, Mass. 02110, shall be used as a guide in conducting the inspections and issuance of certificates required by this section.

(b) Until an inspection has been made to determine that such operation can be undertaken with safety, no alterations, repairs, or other such operations involving riveting, burning, welding, or like fire-producing actions shall be made:

(1) Within or on the boundaries of tanks which have been used to carry combustible liquids or chemicals; or,

(2) Within spaces adjacent to tanks which have been used to carry Grade D combustible liquids, except where the distance between such tanks and the work to be performed is not less than twenty-five (25) feet; or,

(3) Within or on the boundaries of fuel tanks; or,

(4) Within or on the boundaries of tanks carrying Grade B or Grade C flammable liquids or within spaces adjacent to such tanks; or,

(5) To pipelines, heat coils, pumps, fittings, or other appurtenances connected to such fuel tanks.

(c) Such inspections shall be made and evidenced as follows:

(1) In ports or places in the United States or its territories and possessions the inspection shall be made by a marine chemist certificated by the National Fire Protection Association; however, if the services of such certified marine chemist are not reasonably available, the Officer in Charge, Marine Inspection, upon the recommendation of the vessel owner and his contractor or their representative shall select a person who, in the case of an individual vessel, shall be authorized to make such inspection. If the inspection indicates that such operations can be undertaken with safety, a certificate setting forth the fact in writing and qualified as may be required, shall be issued by the certified marine chemist or the authorized person before the work is started. Such qualifications shall include any requirements as may be deemed necessary to maintain, insofar as can reasonably be done, the safe conditions in the spaces certified throughout the operation and shall include such additional tests and certifications as considered required. Such qualifications and requirements shall include precautions necessary to eliminate or minimize hazards that may be present from protective coatings or residues from cargoes.

(2) When not in such a port or place, and a marine chemist or such person authorized by the Officer in Charge, Marine Inspection, is not reasonably available, the inspection shall be made by the senior officer in the crew present and a proper entry shall be made in the vessel's logbook.

(d) It shall be the responsibility of the senior officer present to secure copies of certificates issued by the certified marine chemist or such person authorized by the Officer in Charge, Marine Inspection. It shall be the responsibility of the senior officer in the crew present, insofar as the persons under his control are concerned, to maintain a safe condition on the vessel by full observance of all qualifications and requirements listed by the marine chemist in the certificate.

Subpart 189.55—Plan Approval

§ 189.55-1 General.

(a) The following list of required plans in § 189.55-5 is general in character, but includes all plans which normally show construction and safety features coming under the cognizance of the Coast Guard. In the case of a particular vessel, all of the plans enumerated may not be applicable and it is intended that only those plans and specifications be submitted as will clearly show the vessel's arrangements, construction and required equipment.

(b) In the following list of required plans in § 189.55-5, the items which must be approved by the American Bureau of Shipping for vessels classed by that organization are indicated by an asterisk. When prints bearing record of such approval by the American Bureau of Shipping are forwarded to the Coast Guard they will in general be accepted as satisfactory except insofar as the law or the Coast Guard regulations contain requirements which are not covered by the American Bureau of Shipping.

§ 189.55-5 Plans and specifications required for new construction.

(a) *General.* (1) Specifications.

(2) General arrangement plan of decks, holds, inner bottoms, etc., and including inboard and outboard profile.

(b) *Hull structure.* [1](1) *Inner bottom plating and framing.

(2) *Midship section.

(3) *Shell plating and framing.

(4) *Stem, stern frame, and rudder.

(5) *Structural deck plans for strength decks.

(6) *Pillars and girders.

(7) *Watertight and oiltight bulkheads.

(8) *Foundations for main machinery and boilers.

(9) *Arrangement of ports, doors, and airports in shell plating.

(10) *Hatch coamings and covers in weather and watertight decks.

(11) *Details of watertight doors and operating gear.

(12) *Scuppers and drains penetrating shell plating.

(13) Weight handling gear when required by the Officer in Charge, Marine Inspection, as provided for by § 189.35-9.

(c) *Hull calculations, etc.* Required only when a stability test is to be performed.

(1) Lines (for information).

(2) Curves of form.

(3) Capacity plan showing capacities and vertical and longitudinal centers of gravity of cargo spaces, tanks, scientific equipment, etc. (for information).

(4) Tank sounding tables (for information).

(5) Draft mark locations (for information).

(d) *Fire control.* (1) General arrangement plans showing for each deck the control stations, the various fire sections enclosed by fire resisting bulkheads, the arrangement of the alarm and extinguishing systems, the fire extinguishers, means of access to different compartments and decks and the ventilation system including location of ventilation shutdowns, positions of dampers and the number identifying each system.

(2) Ventilation diagram including dampers and other fire control features.

(3) Details of alarm systems.

(4) Details of extinguishing systems, including fire mains, carbon dioxide, foam and sprinkling systems.

(e) *Marine engineering.* For plans required for marine engineering equipment and systems. See Subchapter F (Marine Engineering) of this chapter.

(f) *Electrical engineering.* For plans required for electrical engineering, equipment, and systems, see Subchapter J (Electrical Engineering) of this chapter.

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[1] The asterisk (*) indicates items which may require approval by the American Bureau of Shipping for vessels classed by that society.

(g) *Lifesaving equipment.* These plans are to show the location and arrangement of embarkation decks, all overboard discharges and projections in way of launching lifeboats, weights of lifeboats fully equipped and loaded, working loads of davits and winches, types and sizes of falls, the manufacturer's name and identification for all equipment, and all other relevant and necessary information.

(1) Arrangement of lifeboats.

(2) Arrangement of davits.

(3) Location and stowage of liferafts and buoyant apparatus.

(h) *Accommodations for crewmembers and scientific personnel.* Arrangement plans showing accommodations, ventilation, escapes, hospitals, and sanitary facilities for all crewmembers and scientific personnel.

(i) *Magazines and magazine vans.* (1) All plans relating to the arrangement, construction, ventilation, and fire protection system for magazines and magazine vans. (The plans required for magazines and magazine vans to be installed or carried on a vessel after the vessel is in operation, are set forth in Subpart 195.11 of this subchapter.)

(2) Ventilation and sprinkler system calculations for magazines and magazine vans.

§ 189.55-10 Plans required for alterations of existing vessels.

(a) In the event of alterations involving the safety of the vessel, the applicable plans shall be submitted for approval covering the proposed work except as modified by § 189.45-1.

§ 189.55-15 Procedure for submittal of plans.

(a) As the relative location of shipyards, design offices, and Coast Guard offices vary throughout the country, no specific routing will be required in the submittal of plans. In general, one of the following procedures would apply, but in a particular case, if a more expeditious procedure can be used, there will be no objection to its adoption.

(1) The plans may be submitted to the Officer in Charge, Marine Inspection, in the district in which the vessel is to be built. This procedure will be most expeditious in the case of those offices where personnel and facilities are available for examination and approval of plans locally.

(2) The plans may be submitted directly to the Commandant (mmt), U.S. Coast Guard, 1300 E Street NW., Washington, D.C. 20591. In this case, the plans will be returned directly to the submitter, with a copy of the action being forwarded to the interested Officer in Charge, Marine Inspection.

(3) The plans may be submitted directly to field technical offices.

(i) Commander, 3d Coast Guard District (mmt), Governors Island, New York, N.Y. 10004, for the geographical area covered by the 1st and 3d, Coast Guard Districts.

(ii) Commander, 8th Coast Guard District (mmt), Hale Boggs Federal Building, 500 Camp Street, New Orleans, La., 70130, for the geographical area covered by the 2d, 7th, and 8th Coast Guard Districts.

(iii) Commander, 9th Coast Guard District (mmt), Federal Office Building, 1240 East Ninth Street, Cleveland, Ohio 44199, for geographical area covered by 9th Coast Guard District.

(iv) Commander, 12th Coast Guard District (mmt), 630 Sansome Street, San Francisco, Calif., for geographical area covered by 11th, 12th, 13th, 14th, and 17th Coast Guard Districts.

(v) Commander, 5th Coast Guard District (mmt), Federal Building, 431 Crawford Street, Portsmouth, Va. 23705, for the geographical area covered by the 5th Coast Guard District.

(4) In the case of classed vessels, upon specific request by the submitter, the American Bureau of Shipping will arrange to forward the necessary plans to the Coast Guard indicating its action thereon. In this case, the plans will be returned as noted in paragraph (a)(2) of this section.

(5 U.S.C. 552, 14 U.S.C. 633)

[CGFR 67-83, 33 FR 1118, Jan. 27, 1968, as amended by CG 78-108, 43 FR 46546, Oct. 10, 1978]

§ 189.55-20 Number of plans required.

(a) Three copies of each plan are normally required so that one can be returned to the submitter. If the submitter desires additional approved plans, a suitable number should be submitted to permit the required distribution.

[CGFR 67-83, 33 FR 1118, Jan. 27, 1968, as amended by CGFR 69-116, 35 FR 6862 Apr. 30, 1970]

Subpart 189.60—Certificates Under International Convention for Safety of Life at Sea, 1960

§ 189.60-1 Application.

(a) The provisions of this subpart, with the exception of §§ 189.60-30 and 189.60-40(e), shall apply to all oceanographic vessels on an international voyage other than nuclear vessels. (See § 188.05-10 of this subchapter.)

(b) The provisions of §§ 189.60-30, 189.60-35, and 189.60-40(e) shall apply to all nuclear oceanographic vessels on an international voyage.

§ 189.60-5 Cargo Ship Safety Construction Certificate.

(a) All vessels on an international voyage are required to have a Cargo Ship Safety Construction Certificate. This certificate shall be issued by the U.S. Coast Guard or the American Bureau of Shipping to certain vessels on behalf of the United States of America as provided in Regulation 12, Chapter I, of the International Convention for Safety of Life at Sea, 1960.

(b) All such vessels shall meet the applicable requirements of this chapter for vessels on an international voyage.

§ 189.60-10 Cargo Ship Safety Equipment Certificate.

(a) All vessels on an international voyage are required to have a Cargo Ship Safety Equipment Certificate.

(b) All such vessels shall meet the applicable requirements of this chapter for vessels on an international voyage.

§ 189.60-15 Cargo Ship Safety Radiotelegraphy Certificate.

(a) The application for Cargo Ship Safety Radiotelegraphy Certificate is made on FCC Form 801 to the local office of the Federal Communications Commission.

(b) Where applicable, a Cargo Ship Safety Radiotelegraphy Certificate will be issued by the Federal Communications Commission to a vessel meeting its requirements for a vessel fitted with a radiotelegraph installation.

§ 189.60-20 Cargo Ship Safety Radiotelephony Certificate.

(a) The application for a Cargo Ship Safety Radiotelephony Certificate is made on FCC Form 801 to the local office of the Federal Communications Commission.

(b) Where applicable, a Cargo Ship Safety Radiotelephony Certificate will be issued by the Federal Communications Commission to a vessel meeting its applicable requirements for a vessel fitted with a radiotelephone installation.

§ 189.60-25 Exemption Certificate.

(a) A vessel may be exempted by the Commandant from complying with certain requirements of the Convention under his administration upon request made in writing to him and transmitted via the Officer in Charge, Marine Inspection.

(b) When an exemption is granted to a vessel by the Commandant under and in accordance with the Convention, an Exemption Certificate describing such exemption shall be issued through the appropriate Officer in Charge, Marine Inspection, in addition to other required certificates.

§ 189.60-30 Nuclear Cargo Ship Safety Certificate.

(a) All nuclear cargo vessels on an international voyage are required to have a Nuclear Cargo Ship Safety Certificate.

(b) All such vessels shall meet the applicable requirements of this chapter for nuclear vessels on an international voyage.

(c) Nuclear vessels cannot be exempted from any requirements of the Convention.

§ 189.60-35 Posting of Convention certificates.

(a) The certificates described in this subpart, or certified copies thereof, when issued to a vessel shall be posted in a prominent and accessible place on the vessel.

(b) The certificates shall be carried in a manner similar to that described in § 189.01-5 for a certificate of inspection.

§ 189.60-40 Duration of certificates.

(a) A Cargo Ship Safety Equipment Certificate shall be issued for a period of not more than 24 months.

(b) A Cargo Ship Safety Construction Certificate shall be issued for a period of not more than 60 months.

(c) A Cargo Ship Safety Radiotelegraphy Certificate and a Cargo Ship Safety Radiotelephony Certificate shall be issued for a period of not more than 12 months.

(d) An Exemption Certificate shall not be valid for longer than the period of the certificate to which it refers.

(e) The Nuclear Cargo Ship Safety Certificate shall be issued for a period of not more than 12 months.

(f) A Convention Certificate may be withdrawn, revoked, or suspended at any time when it is determined the vessel is no longer in compliance with applicable requirements. (See § 2.01-70 of this chapter for procedures governing appeals.)

§ 189.60-45 American Bureau of Shipping.

(a) The American Bureau of Shipping, with its home office at 45 Broad Street, New York, N.Y. 10004, is hereby designated as an organization duly authorized to issue the "Cargo Ship Safety Construction Certificate" to certain oceanographic vessels on behalf of the United States of America as provided in Regulation 12, Chapter I, of the International Convention for Safety of Life at Sea, 1960, and Executive Order 11239 and the certificate shall be subject to the requirements in this subpart. The American Bureau of Shipping is authorized to place the official seal of the United States of America on the certificate. This designation and delegation to the American Bureau of Shipping shall be in effect until terminated by proper authority and notice of cancellation is published in the FEDERAL REGISTER.

(b) At the option of the owner or agent of a vessel on an international voyage and on direct application to the American Bureau of Shipping, the Bureau may issue to such vessel a Cargo Ship Safety Construction Certificate, having a period of validity of not more than 60 months after ascertaining that the vessel:

(1) Has met the applicable requirements of the Convention; and

(2) Is currently classed by the Bureau and classification requirements have been dealt with to the satisfaction of the Bureau.

(c) When the Bureau determines that a vessel to which it has issued a Cargo Ship Safety Construction Certificate no longer complies with the Bureau's applicable requirements for classification, the Bureau shall immediately furnish to the Coast Guard all relevant information, which will be used by the Coast Guard to determine whether or not to withdraw, revoke or suspend the Cargo Ship Safety Construction Certificate.

(Sec. 25, 41 Stat. 998, as amended, sec. 701, 62 Stat. 731, as amended; 46 U.S.C. 881, 18 U.S.C. 701)

PART 190—CONSTRUCTION AND ARRANGEMENT

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AUTHORITY: R.S. 4405, as amended, 4462, as amended, sec. 5, 79 Stat. 424; 46 U.S.C. 375, 416, 445. Interpret or apply R.S. 4417, as amended, 4418, as amended, 4488, as amended, sec. 10, 35 Stat. 428, as amended, 41 Stat. 305, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 6(b)(1), 80 Stat. 938; 46 U.S.C. 391, 392, 481, 395, 363, 367, 49 U.S.C. 1655(b), E.O. 11239; 3 CFR, 1964-1965 Comp.; 49 CFR 1.4(a)(2); unless otherwise noted.

SOURCE: CGFR 67-83, 33 FR 1125, Jan. 27, 1968, unless otherwise noted.

Subpart 190.01—Hull Structure

§ 190.01-1 Application.

(a) The provisions of this subpart, with the exception of § 190.01-90, shall apply to all vessels contracted for on or after March 1, 1968.

(b) Vessels contracted for prior to March 1, 1968, shall meet the requirements of § 190.01-90.

§ 190.01-5 Vessels subject to load line.

(a) For vessels assigned a load line, see Subchapter E (Load Lines) of this chapter for special requirements as to strength, closure of openings, etc.

(Sec. 2, 45 Stat. 1493, as amended, sec. 2, 49 Stat. 888, as amended; 46 U.S.C. 85a, 88a)

§ 190.01-10 Structural standards.

(a) In general, compliance with the standards established by the American Bureau of Shipping, see Subpart 188.35 of this subchapter, will be considered as satisfactory evidence of the structural efficiency of the vessel. However, in special cases, a detailed analysis of the entire structure or some integral part may be made by the Coast Guard to determine the structural requirements.

§ 190.01-13 Sliding watertight doors.

(a) Sliding watertight doors, where fitted, shall be designed, tested, and installed in accordance with Subpart 163.001 of Part 163 of Subchapter Q (Specifications) of this chapter.

§ 190.01-15 Special consideration.

(a) Special consideration will be given to the structural requirements for small vessels or vessels of an unusual design not contemplated by the rules of the American Bureau of Shipping.

§ 190.01-90 Vessels contracted for prior to March 1, 1968.

(a) Existing structure previously approved will be considered satisfactory so long as it is maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original construction.

(b) Conversions, major alterations, new installations, and replacements, shall meet the applicable specifications in this subpart for new vessels.

Subpart 190.05—General Fire Protection

§ 190.05-1 Application.

(a) The provisions of this subpart shall apply to all vessels, except as noted otherwise in this subpart.

(b) Non-self-propelled vessels of less than 300 gross tons shall not be subject to the provisions of this subpart.

§ 190.05-3 Fire hazards to be minimized.

(a) The general construction of the vessel shall be such as to minimize fire hazards.

§ 190.05-5 Woodwork insulated from heated surfaces.

(a) Internal combustion engine exhausts, boiler, and galley uptakes, and similar sources of ignition shall be kept clear of and suitably insulated from any woodwork or other combustible matter.

§ 190.05-10 Chemical storeroom and lamp room construction.

(a) Chemical storerooms, lamp, paint, and oil lockers and similar compartments shall be constructed of steel or shall be wholly lined with metal.

§ 190.05-15 Segregation of spaces containing the emergency source of electric power.

(a) When a compartment containing the emergency source of electric power, or vital components thereof, adjoins a space containing either the ship's service generators or machinery necessary for the operation of the ship's service generators, all common bulkheads and/or decks shall be protected by approved "structural insulation" or other approved material. This protection shall be such as to be capable of preventing an excessive temperature rise in the space containing the emergency source of electric power, or vital components thereof, for a period of at least 1 hour in the event of fire in the adjoining space. Bulkheads or decks meeting Class A-60 requirements, as defined by § 72.05-10 of Subchapter H (Passenger Vessels) of this chapter, will be considered as meeting the requirements of this paragraph.

§ 190.05-20 Segregation of chemical laboratories and chemical storerooms.

(a) The provisions of this section shall apply to all vessels contracted for on or after March 1, 1968.

(b) Chemical storerooms shall not be located in horizontal proximity to nor below accommodation or safety areas.

(c) Chemical storerooms shall not be located adjacent to the collision bulkhead, nor boundary divisions of the boilerroom, engineroom, galley, or other high fire hazard area.

(d) Chemical laboratories shall not be located adjacent to nor immediately below safety areas. Wherever possible they shall be similarly separated from accomodation spaces and high fire hazard areas such as the galley.

Subpart 190.07—Structural Fire Protection

§ 190.07-1 Application.

(a) The provisions of this subpart, with the exception of § 190.07-90, shall apply to all vessels of 4,000 gross tons and over carrying not more than 150 persons and contracted for on or after March 1, 1968.

(b) The provisions of this subpart, with the exception of § 190.07-90, shall apply to all vessels of 300 gross tons and over, but less than 4,000 gross tons, carrying in excess of 16 persons in the scientific party but not more than 150 persons and contracted for on or after March 1, 1968.

(c) Vessels contracted for prior to March 1, 1968, shall meet the requirements of § 190.07-90.

(d) Those vessels which carry more than 150 persons shall meet the requirements in §§ 72.05-5 through 72.05-60 of Subchapter H (Passenger Vessels) of this chapter.

§ 190.07-5 Definitions.

(a) *Standard fire tests.* A "standard fire test" is one which develops in the test furnace a series of time temperature relationships as follows:

5 minutes—1,000° F.
10 minutes—1,300° F.
30 minutes—1,550° F.
60 minutes—1,700° F.

(b) *"A" Class divisions.* Bulkheads or decks of the "A" Class shall be composed of steel or equivalent metal construction, suitably stiffened and made intact with the main structure of the vessel; such as shell, structural bulkheads, and decks. They shall be so constructed, that if subjected to the standard fire test, they would be capable of preventing the passage of flame and smoke for 1 hour.

(c) *"B" Class bulkheads.* Bulkheads of the "B" Class shall be constructed with approved incombustible materials and made intact from deck to deck and to shell or other boundaries. They shall be so constructed that, if subjected to the standard fire test, they would be capable of preventing the passage of flame for one-half hour.

(d) *"C" Class divisions.* Bulkheads or decks of the "C" Class shall be constructed of approved incombustible materials, but need meet no requirements relative to the passage of flame.

(e) *Steel or other equivalent metal.* Where the term "steel or other equivalent metal" is used in this subpart, it is intended to require a material which, by itself or due to insulation provided, has structural and integrity qualities equivalent to steel at the end of the applicable fire exposure.

(f) *Approved material.* Where in this subpart approved materials are required, they refer to materials approved under the applicable subparts of Part 164 of Subchapter Q (Specifications) of this chapter, as follows:

Deck coverings	164.006
Structural insulation	164.007
Bulkhead panels	164.008
Incombustible materials	164.009
Interior finish	164.012

[CGFR 67-83, 33 FR 1125, Jan. 27, 1968, as amended by CGD 74-155, 41 FR 17910, Apr. 29, 1976]

§ 190.07-10 Construction.

(a) The hull, superstructure, structural bulkheads, decks, and deckhouses shall be constructed of steel. Alternately, the Commandant may permit the use of other suitable material in special cases, having in mind the risk of fire.

(b) The boundary bulkheads of general laboratory areas, chemical storerooms, galleys, paint and lamp lockers and emergency generator rooms shall be of "A" class construction.

(1) Permanently installed divisional bulkheads between laboratories spaces within a general laboratory area may be of B or C class construction.

(2) Temporary divisional bulkheads between laboratory spaces within a general laboratory area may be constructed of combustible materials when they are necessary to facilitate a specific scientific mission.

(c) The boundary bulkheads and decks separating the accomodations and control stations from hold and machinery spaces, galleys, main pantries, laboratories, and storerooms, other than small service lockers, shall be of "A" Class construction.

(1) The boundary bulkheads and decks separating general laboratory areas of 500 square feet or less from accommodations and control stations shall be of "A-15" Class construction as defined by § 72.05-10 of Subchapter H (Passenger Vessels) of this chapter.

(2) The boundary bulkheads and decks separating general laboratory areas of over 500 square feet from accommodations and control stations shall be of "A-30" Class construction as defined by § 72.05-10 of Subchapter H (Passenger Vessels) of this chapter.

(d) Within the accommodation and service areas the following conditions shall apply:

(1) Corridor bulkheads in accommodation spaces shall be of the "A" or "B" Class intact from deck to deck. Stateroom doors in such bulkheads may have a louver in the lower half.

(2) Elevator, dumbwaiter, stairtower, and other trunks shall be of "A" Class construction.

(3) Bulkheads not already specified to be of "A" or "B" Class construction may be of "A", "B", or "C" Class construction.

(4) The integrity of any deck in way of a stairway, shall be maintained by means of "A" or "B" class bulkheads and doors at one level. The integrity of a stairtower shall be maintained by "A" class doors at every level. The door shall be of the self-closing type. Holdback hooks will not be permitted. However, magnetic holdbacks operated from the bridge or other suitable remote control positions are acceptable.

(5) Interior stairs, including stringers and treads, shall be of steel.

(6) Except for washrooms and toilet spaces, deck coverings within accommodation spaces shall be of an approved type. However, overlays for leveling or finishing purposes which do not meet the requirements for an approved deck covering may be used in thicknesses not exceeding three-eights of an inch.

(7) Ceilings, linings, and insulation, including pipe and duct laggings, shall be approved incombustible materials.

(8) Any sheathing, furring, or holding pieces incidental to the securing of any bulkhead, ceiling, lining, or insulation shall be of approved incombustible materials.

(9) Bulkheads, linings, and ceiling may have a combustible veneer within a room not to exceed two twenty-eighths of an inch in thickness. However, combustible veneers, trim, decorations, etc., shall not be used in corridors or hidden spaces. This is not intended to preclude the use of an approved interior finish or a reasonable number of coats of paint.

(e) Nitrocellulose or other highly flammable or noxious fume-producing paints or lacquers shall not be used.

§ 190.07-90 Vessels contracted for prior to March 1, 1968.

(a) Existing structure arrangements and materials previously approved will be considered satisfactory so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original construction.

(b) Conversions, major alterations, new installations, and replacements shall comply with the applicable specifications and requirements in this subpart for new vessels.

Subpart 190.10—Means of Escape

§ 190.10-1 Application.

(a) The provisions of this subpart, with the exception of § 190.10-90, shall apply to all vessels other than non-self-propelled vessels of less than 300 gross tons, contracted for on or after March 1, 1968.

(b) Vessels contracted for prior to March 1, 1968, shall meet the requirements of § 190.10-90.

(c) Non-self-propelled vessels of less than 300 gross tons shall not be subject to the provisions of this subpart.

§ 190.10-5 Two means required.

(a) There shall be at least two means of escape from all general areas where the crew or scientific personnel may be quartered or normally employed. At least one of these two means of escape shall be independent of watertight doors and hatches, except for quick acting watertight doors giving final access to weather decks.

§ 190.10-10 Location.

(a) The two means of escape shall be as remote as practicable so as to minimize the possibility of one incident blocking both escapes.

§ 190.10-15 Vertical ladders not accepted.

(a) Vertical ladders and deck scuttles shall not in general be considered satisfactory as one of the required means of escape. However, where it is demonstrated that the installation of a stairway would be impracticable, a vertical ladder may be used as the second means of escape.

§ 190.10-20 No means for locking doors.

(a) No means shall be provided for locking door giving access to either of the two required means of escape except that crash doors or locking devices, capable of being easily forced in an emergency, may be employed provided a permanent and conspicuous notice to this effect is attached to both sides of the door. This paragraph shall not apply to outside doors to deckhouses where such doors are locked by key only and such key is under the control of one of the vessel's officers.

§ 190.10-25 Stairway size.

(a) Stairways shall be of sufficient width having in mind the number of persons having access to such stairs for escape purposes.

(b) All interior stairways, other than those within the machinery spaces, shall have minimum width of 28 inches. The angle of inclination with the horizontal of such stairways shall not exceed 50°.

(c) Special consideration for relief may be given if it is shown to be unreasonable or impracticable to meet the requirements in this section.

§ 190.10-30 Dead end corridors.

(a) Dead end corridors, or the equivalent, more than 40 feet in length shall not be permitted.

§ 190.10-35 Public spaces.

(a) In all cases, public spaces having a deck area of over 300 square feet shall have at least two exits. Where practicable, these exits shall give egress to different corridors, rooms, or spaces to minimize the possibility of one incident blocking both exits.

§ 190.10-40 Access to lifeboats.

(a) The stairways, corridors, and doors shall be so arranged as to permit a ready and direct access to the various lifeboat and liferaft embarkation areas.

§ 190.10-45 Weather deck communications.

(a) Vertical communication shall be provided between the various weather decks by means of permanent inclined ladders.

§ 190.10-90 Vessels contracted for prior to March 1, 1968.

(a) Existing arrangements previously approved will be considered satisfactory so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original design: *Provided*, That in no case will a greater departure from the standards of §§ 190.10-5 through 190.10-45 be permitted than presently exists. Nothing in this paragraph shall be construed as exempting any vessel from having two means of escape from all main compartments where persons on board may be quartered or normally employed.

Subpart 190.15—Ventilation

§ 190.15-1 Application.

(a) The provisions of this subpart, with the exception of § 190.15-90, shall apply to all vessels other than non-self-propelled vessels of less than 300 gross tons, contracted for on or after March 1, 1968.

(b) Vessels contracted for prior to March 1, 1968, shall meet the requirements of § 190.15-90.

(c) Non-self-propelled vessels of less than 300 gross tons shall not be subject to the provisions of this subpart.

§ 190.15-5 Vessels using fuel having a flashpoint of 110° F. or lower.

(a) Spaces containing machinery which uses, or tanks which contain, fuel having a flashpoint of 110° F. or lower shall have natural supply and mechanical exhaust ventilation as required by this section.

(b) The mechanical exhaust system shall be such as to assure the air changes as noted in Table 190.15-5(b) depending on the size of the space.

TABLE 190.15-5(b)

Size of space, cubic feet		Minute per air change
Over	Not over	
	500	2
500	1000	3
1000	1500	4
1500		5

(c) Exhaust blower motors, unless of a totally enclosed, explosion-proof type, shall be located outside of the ducts and outside of the compartment required to be ventilated. Exhaust blower motors if mounted in any compartment shall be located as high above the bilge as practicable. Blower blades shall be nonsparking with reference to their housings.

(d) Exhaust blower switches shall be located outside of any space required to be ventilated by this section, and shall be of the type interlocked with the ignition switch so that the blowers are started before the engine ignition is switched on. A red warning sign at the switch shall state that the blowers shall be operated prior to starting the engines for a sufficient time to insure at least one complete change of air in the compartments.

(e) The area of the ducts shall be such as to limit the air velocity to a maximum of 2,000 feet per minute. Ducts may be of any shape: *Provided*, That in no case shall one cross section dimension exceed twice the other.

(f) At least two inlet ducts shall be located at one end of the compartment and they shall extend to the lowest part of the compartment or bilge on each side. Similar exhaust ducts shall be led to the mechanical exhaust system from the lowest part of the compartment or bilge on each side of the compartment at the end opposite from that at which the inlet ducts are fitted. These ducts shall be so installed that ordinary collection of water in the bilge will not close off the ducts.

(g) All ducts shall be of steel construction and reasonably gastight from end to end. The ducts shall lead as direct as possible and be properly fastened and supported.

(h) All supply ducts shall be provided with cowls or scoops having a free area not less than twice the required duct area. When the cowls or scoops are screened, the mouth area shall be increased to compensate for the area of the screen wire. Dampers shall not be fitted in the supply ducts. Cowls or scoops shall be kept open at all times except when the stress of weather is such as to endanger the vessel if the openings are not temporarily closed. Supply and exhaust openings shall not be located where the natural flow of air is unduly obstructed, or adjacent to possible sources of vapor ignition, nor shall they be so located that exhaust air may be taken into the supply vents.

(i) Provision shall be made for closing all cowls or scoops when the fixed carbon dioxide system is operated.

§ 190.15-10 Ventilation for closed spaces.

(a) All enclosed spaces within the vessel shall be properly vented or ventilated. Means shall be provided to close off all vents and ventilators.

(b) Means shall be provided for stopping all fans in ventilation systems serving the chemical laboratories, scientific laboratories, chemical storerooms, and machinery spaces and for closing all doorways, ventilators, and annular spaces around funnels and other openings to such spaces, from outside these spaces, in case of fire.

(c) See §§ 194.15-5 and 194.20-5 of this subchapter for ventilation of chemical laboratories, scientific laboratories, and storerooms.

§ 190.15-15 Ventilation for living spaces and quarters.

(a) All living spaces shall be adequately ventilated in a manner suitable to the purpose of the space.

(b) All spaces used as quarters for crewmembers and scientific personnel shall be ventilated by a mechanical system unless it can be shown that a natural system will provide adequate ventilation By a natural system is meant those spaces so located that the windows, ports, skylights, etc., and doors to passageways can be kept open and thereby provide adequate ventilation under all ordinary conditions of weather.

§ 190.15-90 Vessels contracted for prior to March 1, 1968.

(a) Existing arrangements previously approved will be considered satisfactory so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original design: *Provided*, That in no case will a greater departure from the standards of §§ 190.15-5 through 190.15-15 be permitted than presently exists.

Subpart 190.20—Accommodations for Officers, Crew, and Scientific Personnel

§ 190.20-1 Application.

(a) The provisions of this subpart, with the exception of § 190.20-90, shall apply to all vessels contracted for on or after March 1, 1968.

(b) Vessels contracted for prior to March 1, 1968, shall meet the requirements of § 190.20-90.

§ 190.20-5 Intent.

(a) It is the intent of this subpart that the accommodations provided for officers, crew, and scientific personnel on all vessels shall be securely constructed, properly lighted, heated, drained, ventilated, equipped, located, arranged, and, where practicable, shall be insulated from undue noise and free from effluvia.

(b) Provided the intent of this subpart is met, consideration may be given by the Officer in Charge, Marine Inspection, to relax the requirements relating to the size and separation of accommodations for scientific personnel.

(c) The crew referred to in this subpart includes all persons, except the licensed officers, regularly employed on board any vessel. Where the requirements for the accommodations of licensed officers and/or scientific personnel are not otherwise specified, they shall be at least equivalent to that indicated in this subpart for the crew.

§ 190.20-10 Location of crew spaces.

(a) Crew spaces shall be located, where practicable, so that the maximum amount of fresh air and light are obtainable, having due regard to the service of the vessel and the requirements of other space users.

(b) Crew quarters shall not be located farther forward in the vessel than a vertical plane located at 5 percent of the vessel's length abaft the forward side of the stem at the designed summer load water line. However, for vessels in other than ocean or coastwise service, this distance need not exceed 28 feet. For purpose of this paragraph the length shall be as defined in § 43.15-1 of Subchapter E (Load Lines) of this chapter. No section of the deck of the crew spaces shall be below the deepest load line, except that in special cases, the Commandant may approve such an arrangement: *Provided*, That in no case shall the deck head of crew spaces other than gymnasiums, exercise rooms, and libraries be below the deepest load line.

(c) Hawse pipes or chain pipes shall not pass through crew spaces.

(d) There shall be no direct communication, except through solid, close fitted doors or hatches between crew spaces and chain lockers, or machinery spaces.

(e) There shall be no access, vents, or sounding tubes from fuel oil tanks opening into crew spaces, except that sounding tubes and access openings may be located in corridors.

(f) Where practicable, crew spaces shall be located entirely separate and independent of spaces allotted to licensed officers.

§ 190.20-15 Construction.

(a) All crew spaces are to be constructed in a manner suitable to the purpose for which they are intended. The bulkheads separating the crew spaces from machinery spaces, lamp and paint rooms, storerooms, drying rooms, washrooms, and toilet spaces shall be made odor-proof where deemed necessary by the Commandant.

(b) Toilet spaces, except when provided as private or semiprivate facilities, shall be so built, fitted, and situated, that no odor from them will readily enter other crew spaces.

(c) Where shell or unsheathed weather decks form boundaries of crew spaces, suitable protective coverings shall be applied to prevent formation or accumulation of moisture.

(d) Where crew spaces adjoin or are immediately above spaces such as galleys, machinery spaces or casings, donkeys boilerrooms, etc., they shall be suitably protected from the heat.

(e) The interior sides and deck heads of crew spaces shall be covered with enamel, paint, or other material light in color.

(f) Crew spaces shall be properly drained where considered necessary.

(g) All washrooms and toilet rooms shall be properly drained and so constructed and arranged that they can be kept in a clean, workable, and sanitary condition. The scuppers shall be located in the lowest part of the space, due consideration being given to the average trim of the vessel.

§ 190.20-20 Sleeping accommodations.

(a) *Arrangements.* (1) Where practicable, separate sleeping accommodations are to be provided for the deck, engine, and steward groups of the crew.

(2) Where practicable, each licensed officer shall be provided with a separate stateroom.

(b) *Size.* (1) Sleeping accommodations for the crew shall be divided into rooms, no one of which shall berth more than four persons.

(2) Each room shall be of such size that there are at least 30 square feet of deck area and a volume of at least 210 cubic feet for each person accommodated. The clear head room shall be not less than 6 feet 3 inches. In measuring sleeping quarters allocated to crews of vessels, any equipment contained therein for the use of the occupants is not to be deducted from the total volume or from the deck area.

(3) Sleeping accommodations for scientific personnel shall be divided into rooms, no one of which shall berth more than six persons.

(4) Each room for scientific personnel shall be of such size that there are at least 20 square feet of deck area and a volume of at least 150 cubic feet for each person accommodated. The clear head room shall be not less than 6 feet 3 inches. In measuring sleeping accommodations any equipment contained therein for the use of the occupants is not to be deducted from the total volume or from the deck area.

(c) *Equipment.* (1) Each person shall have a separate berth and not more than one berth shall be placed above another. The berths shall have a framework of metal or other hard, smooth material not likely to corrode or harbor vermin, and shall be so arranged that they provide ample room for easy occupancy. The overall size of a berth shall not be less than 30 inches wide by 76 inches long, except by special permission of the Commandant. Where berths adjoin, they shall be divided by a partition not less than 18 inches in height. Where two tiers of berths are fitted, the bottom of the lower must not be less than 12 inches above the deck, and the bottom of the upper must not be less than 2 feet 6 inches both from the bottom of the lower and from the deck overhead. The berths shall not be obstructed by pipes, ventilating ducts, or other installations.

(2) A locker of metal or other hard, smooth material shall be provided for each person accommodated in a room. Each locker shall be not less than 300 square inches in cross section area and 60 inches high. It shall be so placed as to be readily accessible. The interior of the locker shall be so arranged as to facilitate the proper stowage of clothes.

§ 190.20-25 Washrooms and toilet rooms.

(a) There shall be provided at least one toilet, one washbasin, and one shower or bathtub for each eight members or portion thereof in the crew to be accommodated. The crew to be accommodated shall include all members who do not occupy rooms to which private or semiprivate facilities are attached.

(b) Under the following conditions, the toilet and washing facilities for the specific groups of the crew indicated shall be located in spaces separate from the facilities for other crewmembers; and shall be provided for that group in the ratios required by paragraph (a) of this section.

(1) The members of the engine department, where their number, exclusive of licensed officers and others separately provided for, exceeds eight.

(2) The members of the steward's department, exclusive of those separately provided for, where their number exceeds eight.

(c) The toilet rooms and washrooms shall be located convenient to the sleeping quarters of the crew to which they are allotted but shall not open directly into such quarters except when they are provided as private or semiprivate facilities.

(d) All washbasins, showers, and bathtubs shall be equipped with proper plumbing, including hot and cold running water. Washbasins may be located in the crew sleeping quarters.

(e) The toilet rooms shall be separate from the washrooms and at least one washbasin shall be fitted in each toilet room, except where private or semiprivate facilities are provided and washbasins are installed in the sleeping rooms.

(1) All toilets shall be installed with proper plumbing for flushing. Toilets shall be provided with seats of the open front type. Urinals may be fitted in toilet rooms, if desired, but no reduction in the required number of toilets will be made therefor.

(2) Where more than one toilet is located in a space or compartment, each toilet shall be separated by partitions, which shall be open at the top and bottom for ventilation and cleaning purposes.

[CGFR 67-83, 33 FR 1135, Jan. 27, 1968, as amended by CGD 73-119R, 38 FR 20449, Aug. 1, 1973]

§ 190.20-30 Messrooms.

(a) Messrooms shall be located as near to the gallery or suitably equipped serving pantry, as is practicable except where messroom is equipped with a steam table. The messrooms shall be of such size as to seat the number of persons normally scheduled to be eating at one time.

(b) Messrooms shall be properly equipped with tables, seats, and other necessary equipment and shall be so arranged as to permit access to each seat.

§ 190.20-35 Hospital space.

(a) Except as specifically modified by paragraph (f) of this section, each vessel, which in the ordinary course of its voyage is more than 3 days' duration from port and which carries a crew of 12 or more, shall be provided with a hospital space. This space shall be situated with due regard to the comfort of the sick so that they may receive proper attention in all weathers.

(b) The hospital shall be suitably separated from other spaces and shall be used for the care of the sick and for no other purpose.

(c) The entrance shall be of such width and in such a position as to admit a stretcher case readily. Berths shall be of metal and may be in double tier, provided the upper berth is hinged and arranged to be secured clear of the lower berth when not in use. At least one berth shall be so arranged that it can be made accessible from both sides when necessary.

(d) The hospital shall be fitted with berths in the ratio of 1 berth to every 12 members of the crew or portion thereof who are not berthed in single occupancy rooms, but the number of berths need not exceed six. Where all single occupancy rooms are provided the requirement for a separate hospital room may be withdrawn: *Provided,* That one stateroom is fitted with a bunk accessible from both sides.

(e) The hospital shall have a toilet, washbasin and bathtub or shower conveniently situated. Other necessary suitable equipment of such character as clothes locker, table, seat, etc., shall be provided.

(f) On vessels in which the crew is berthed in single occupancy staterooms a hospital space will not be required: *Provided,* That one room shall be designated and fitted for use as a treatment and/or isolation room. Such room shall meet the following standards:

(1) The room must be ready for immediate medical use:

(2) The room must be accessible to stretcher cases;

(3) The room must have a single berth or examination table so arranged that it can be accessible from both sides when necessary; and,

(4) A wash basin with hot and cold running water must be installed either in or immediately adjacent to the space and other required sanitary facilities must be conveniently located.

§ 190.20-40 Other spaces.

(a) Sufficient facilities, depending upon the number of the crew, shall be provided where the crew may wash their own clothes. There shall be at least one tub or sink, fitted with the necessary plumbing, including hot and cold running water.

(b) Clothes drying facilities or space shall be provided for the needs of the crew.

(c) Recreation accommodations shall be provided. Where messrooms are used for this purpose, they shall be suitably planned.

§ 190.20-45 Lighting.

(a) All crew spaces shall be adequately lighted in accordance with the requirements of Subchapter J (Electrical Engineering) of this chapter.

(b) Berth lights shall be provided for each member of the crew.

§ 190.20-50 Heating.

(a) All crew spaces shall be adequately heated in a manner suitable to the purpose of the space.

(b) The heating system will be considered satisfactory if it is capable of maintaining a minimum temperature of 70° F. under normal operating conditions without undue curtailment of the ventilation.

(c) Radiators and other heating apparatus shall be so placed, and where necessary shielded, as to avoid risk of fire, danger, or discomfort to the occupants. Pipes leading to radiators or heating apparatus shall be lagged where those pipes create a hazard to persons occupying the space.

§ 190.20-55 Insect screens.

(a) Except in such areas as are considered to be insect free, provision shall be made to protect the quarters for crew and scientific personnel against the admission of insects. This may be accomplished by the fitting of suitable screens to ventilating skylights, airports, ventilators, and doors to unscreened spaces and the open deck or by other methods. Insect screens are not required in air conditioned quarters nor for windows, airports, and doors that are normally kept closed.

§ 190.20-90 Vessels contracted for prior to March 1, 1968.

(a) Existing structures, arrangements, materials, and facilities previously approved will be considered satisfactory so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original construction: *Provided*, That in no case will a greater departure from the standards of §§ 190.20-5 through 190.20-55 be permitted than presently exists.

Subpart 190.25—Rails and Guards

§ 190.25-1 Application.

(a) The provisions of this subpart with the exception of § 190.25-90, apply to all vessels contracted for on or after July 1, 1969.

(b) Vessels contracted for prior to July 1, 1969 shall meet the requirements of § 190.25-90.

[CGFR 69-72, 34 FR 17503, Oct. 29, 1969]

§ 190.25-5 Where rails required.

(a) All vessels shall have efficient guard rails or bulwarks on decks and bridges. The height of rails or bulwarks shall be at least 39½ inches from the deck. At exposed peripheries of the freeboard and superstructure decks, the rails shall be in at least three courses, including the top. The opening below the lowest course shall not be more than 9 inches. The courses shall not be more than 15 inches apart. In the case of ships with rounded gunwales the guard rail supports shall be placed in the flat of the deck. On other decks and bridges the rails shall be in at least two courses, including the top, approximately evenly spaced. If it can be shown to the satisfaction of the Officer in Charge, Marine Inspection, that the installation of rails of such height will be unreasonable and impracticable, having regard to the business of the vessel, rails of a lesser height or in some cases grab rails may be accepted and inboard rails may be eliminated if the deck is not generally accessible.

(b) Where it can be shown to the satisfaction of the Commandant that a vessel is engaged exclusively in voyages of a sheltered nature, the provisions of paragraph (a) of this section may be relaxed.

[CGFR 69-72, 34 FR 17503, Oct. 29, 1969]

§ 190.25-10 Storm rails.

(a) On vessels in ocean and coastwise service, suitable storm rails shall be installed in all passageways and at the deckhouse sides where persons on board might have normal access. Storm rails shall be installed on both sides of passageways which are 6 feet or more in width.

§ 190.25-15 Guards in dangerous places.

(a) Suitable hand covers, guards, or rails shall be installed in way of all exposed and dangerous places such as gears, machinery, etc.

§ 190.25-90 Vessels contracted for prior to July 1, 1969.

(a) Existing structures, arrangements, materials, and facilities previously approved will be considered satisfactory so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original construction: *Provided*, That in no case will a greater departure from the standards of §§ 190.25-5 through 190.25-15 be permitted than presently exists.

[CGFR 67-83, 33 FR 1125, Jan. 27, 1968, as amended by CGFR 69-72, 34 FR 17503, Oct. 29, 1969]

PART 191—SUBDIVISION AND STABILITY

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191.90-1 Requirements.
191.90-5 Stability information.
191.90-10 Stability letter.

AUTHORITY: R.S. 4405, as amended, 4462, as amended, sec. 5, 79 Stat. 424; 46 U.S.C. 375, 416, 445. Interpret or apply R.S. 4417, as amended, 4418, as amended, 4488, as amended, sec. 10, 35 Stat. 428, as amended, 41 Stat. 305, as amended, sec. 2, 45 Stat. 1493, as amended, sec. 2, 49 Stat. 888, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 6(b)(1), 80 Stat. 938; 46 U.S.C. 391, 392, 481, 395, 363, 85a, 88a, 367, 49

U.S.C. 1655(b), E.O. 11239; 3 CFR, 1964-1965 Comp.; 49 CFR 1.4(a)(2).

SOURCE: CGFR 67-83, 33 FR 1130, Jan. 27, 1968, unless otherwise noted.

Subpart 191.01—Application

§ 191.01-1 General.

(a) The provisions of this part, with the exception of Subpart 191.90, shall apply to all vessels other than non-self-propelled vessels of less than 300 gross tons, contracted for on or after March 1, 1968.

(b) Vessels contracted for prior to March 1, 1968, shall meet the requirements of Subpart 191.90.

(c) Non-self-propelled vessels of less than 300 gross tons shall not be subject to the provisions of this part.

Subpart 191.05--Definitions

§ 191.05-1 Subdivision load line.

(a) A subdivision load line is a waterline used in determining the subdivision of the ship.

§ 191.05-2 Deepest subdivision load line.

(a) The deepest subdivision loadline is the waterline which corresponds to the greatest draft permitted by the subdivision requirements which are applicable.

§ 191.05-3 Length of the vessel.

(a) The length of the vessel is the length measured between perpendiculars taken at the extremities of the deepest subdivision load line.

§ 191.05-4 Breadth of the vessel.

(a) The breadth of the vessel is the extreme width from outside of frame to outside of frame at or below the deepest subdivision load line.

§ 191.05-5 Bulkhead deck.

(a) The bulkhead deck is the uppermost deck up to which the transverse watertight bulkheads are carried.

§ 191.05-6 Margin line.

(a) The margin line is a line drawn at least 3 inches below the upper surface of the bulkhead deck at side where the bulkhead deck is continuous; where the bulkhead deck is not continuous, an assumed continuous margin line shall be used which at no point is less than 3 inches below the top of the deck at side to which the bulkheads concerned and the shell are carried watertight.

(b) In the case of vessels with continuous bulkhead decks, where the average value of the sheer at bow and stern is less than 12 inches, a modified margin line 3 inches below the top of deck at the ends but lowered amidships to the position indicated in Table 191.05-6(b) is to be used.

TABLE 191.05-6(b)

Average value of sheer at bow and stern (inches)	*Required position of margin line below top of deck, at side amidships (inches)*
12	3
6	6
0	9

(1) Interpolation is required for intermediate values not shown in Table 191.05-6(b).

(2) The modified margin line shall be parabolic through the midship and end points indicated in this paragraph. Margin lines so determined are based upon the assumption that the bulkhead deck is continuous and has existing parabolic sheer. Where this is not the case, the margin line shall be such as to give at least a standard of safety equivalent to the standard described in this paragraph.

§ 191.05-7 Draft.

(a) The draft is the vertical distance from the molded base line amidships to the subdivision load line in question.

§ 191.05-8 Permeability.

(a) The permeability of a space is the percentage of that space which can be occupied by water.

Subpart 191.10—Rules for Subdivision

§ 191.10-1 Permeability.

(a) In making subdivision calculations, volumes shall be calculated to the margin line, and the permeability of spaces shall be taken as follows:

(1) Machinery spaces at 85 percent.

(2) Tanks, chain lockers, and spaces normally filled with cargo, stores, mail, or baggage in the full load condition at 60 percent.

(3) All other spaces at 95 percent.

§ 191.10–5 Compartmentation.

(a) All vessels shall be subdivided so as not to submerge the margin line with any one main compartment flooded.

§ 191.10–10 Minimum spacing of bulkheads.

(a) To be considered effective, watertight bulkheads abaft the collision bulkhead shall be spaced not less than 10 feet plus 3 percent of the load waterline length.

§ 191.10–13 Stepped and recessed bulkheads.

(a) Where a main transverse bulkhead is recessed or stepped, an equivalent plane bulkhead shall be used in determining the subdivision, and the same measure of safety shall be provided as would be provided by a plane bulkhead.

(b) In recessed bulkheads, the recess shall be inboard from the vessel's side by at least one-fifth the beam amidship measured at right angles to the centerline at the level of the load waterline.

§ 191.10–15 Collision bulkhead required.

(a) Every vessel shall have a collision bulkhead located not less than 5 percent and not more than 10 feet plus 5 percent of the length of the vessel from the forward perpendicular.

§ 191.10–16 Extent of double bottoms.

(a) A double bottom should be fitted extending from the forepeak bulkhead to the afterpeak bulkhead as far as is practicable and compatible with the design and proper working of the vessel.

(b) A double bottom shall be fitted in vessels 165 feet in length and upwards to the extent required by this paragraph. Where it is shown that installation of the prescribed inner bottom would interfere with the mission of the vessel or that because of other design features the safety of the vessel, in the case of sides or bottom damage, is not impaired, the Commandant may authorize a reduction or elimination of the required inner bottom.

(1) In vessels 165 feet and under 200 feet in length, a double bottom shall be fitted at least from the machinery space to the forepeak bulkhead, or as near thereto as practicable.

(2) In vessels 200 feet and under 249 feet in length, a double bottom shall be fitted at least outside the machinery space, and shall extend to the fore and afterpeak bulkheads, or as near thereto as practicable.

(3) In vessels 249 feet in length and upwards, a double bottom shall be fitted amidships and shall extend to the fore and afterpeak bulkheads, or as near thereto as practicable.

(c) Where a double bottom is required to be fitted, its depth shall be sufficient to provide acceptable protection against grounding. A depth in inches at the centerline of $18+(L\div 20)$ where L is the vessel's length in feet will ordinarily be considered acceptable. The inner bottom shall be continued out to the ship's side in such a manner as to protect the bottom to the turn of the bilge. Such protection will be deemed satisfactory if the line of intersection of the outer edge of the margin plate with the bilge plating is not lower at any part than a horizontal plane passing through the point of intersection with the frame line amidships of a transverse diagonal line inclined at 25 degrees to the base line and cutting it at a point one-half the ship's molded breadth from the middle line.

(d) A double bottom need not be fitted in way of watertight compartments of moderate size used exclusively for the carriage of liquids, provided the safety of the ship, in the event of bottom or side damage, is not, in the opinion of the Commandant, thereby impaired.

§ 191.10–17 Wells in double bottoms.

(a) Small wells constructed in the double bottom in connection with drainage arrangements of holds, etc., shall not extend downward more than necessary. The depth of the well shall in no case be more than the depth less

18 inches of the double bottom at the centerline, nor shall the well extend below the horizontal plane referred to in § 191.10-16(c).

(b) A well extending to the outer bottom is, however, permitted at the after end of the shaft tunnel of screw vessels. Other wells, such as for lubricating oil under main engines, may be permitted by the Commandant, if satisfied that the arrangements give protection equivalent to that afforded by a double bottom complying with this section.

§ 191.10-18 Manholes in double bottoms.

(a) The number of manholes in the inner bottom shall be reduced to the minimum compatible with the design and necessity for access to the double bottom.

(b) Efficient covers, capable of being made thoroughly watertight and effectively protected from damage by stores, shall be fitted to the manholes.

§ 191.10-19 Watertight floors in double bottoms.

(a) Watertight transverse divisions should be fitted in the double bottom under each main watertight subdivision bulkhead or as near thereto as practicable. Where duct keels are fitted, the transverse divisions need not extend across the duct keel.

§ 191.10-20 Penetrations and openings in watertight bulkheads.

(a) *General.* The number of openings in watertight bulkheads shall be reduced to the minimum compatible with the design and proper working of the vessel; satisfactory means shall be provided for closing these openings. Lead or other heat sensitive materials shall not be used in systems which penetrate watertight subdivision bulkheads, where deterioration of such systems in the event of fire would impair the watertight integrity of the bulkheads.

(b) *Pipes, cables, etc.* (1) Where pipes, scuppers, electric light cables, etc., are carried through watertight subdivision bulkheads, arrangements shall be made to insure the integrity of the watertightness of the bulkheads.

(2) The collision bulkhead below the margin line shall not be pierced by more than one pipe conveying liquids to and from the forepeak tank. Such pipe shall be fitted with a screwdown valve operable from above the bulkhead deck and the valve shall be secured to the bulkhead fitted inside the forepeak tank.

(c) *Valves and cocks.* Valves and cocks not forming part of a piping system shall not be permitted in watertight subdivision bulkheads.

(d) *Ventilation ducts.* (1) Ventilation or forced draft ducts which penetrate watertight bulkheads shall be held to a minimum.

(2) Watertight penetrations may be allowed if the bottom of the duct is not more than 18 inches below the bulkhead deck, and the duct is as near the centerline as possible; and then only if the bottom of the duct is at least 4 feet above the deepest level of flooding water shown by the damaged condition waterlines.

(e) *Prohibited locations for access openings.* No doors, manholes, or access openings are permitted in the collision bulkhead below the margin line.

(f) *Openings above the margin line.* (1) Where a portion of an assumed margin line is appreciably below the deck to which bulkheads are carried, and it can be shown that the maintenance of complete watertightness will result in undue hardship in the arrangement of the vessel, a limited amount of nontight bulkhead penetrations may be permitted as high as possible immediately under the bulkhead deck. Such penetrations shall be subject to specific approval in each instance and will generally be limited as follows:

(i) Not more than 2 feet below the molded line of the bulkhead deck.

(ii) Not less than 9 inches above the margin line.

(iii) Not outboard of vertical lines located off the centerline at a distance of one-fourth of the full breadth of the ship measured on the bulkhead deck at the point in question.

(2) Approved nontight bulkhead penetrations shall be indicated on a suitable plan carried aboard the vessel.

(g) *Trunkways or tunnels.* (1) Where trunkways or tunnels are carried through main transverse watertight bulkheads, they shall be watertight and in accordance with structural requirements for watertight bulkheads. The access to at least one end of each such tunnel or trunkway, if used as a passage at sea, shall be through a trunk extending watertight to a height sufficient to permit access above the margin line. The access to the other end of the trunkway or tunnel may be through a watertight door of the type required by its location in the ship. Such trunkways or tunnels shall not extend through the first subdivision bulkhead abaft the collision bulkhead.

(2) A short tunnel extending through not more than one main subdivision compartment and which is closed at one end need not be fitted with a door at the other end, provided its sides are not nearer the shell than is permitted for the sides of a recess in a bulkhead as stated in § 191.10-13(b), and for damaged stability the volume of the tunnel is included in the volume of the compartment into which it opens.

§ 191.10-25 Watertight bulkhead doors.

(a) *General.* Watertight door openings shall be located as high in the bulkhead and as far inboard as practicable. The number of watertight doors shall be reduced to the minimum consistent with the design and proper working of the vessel.

(b) *Types and classes.* (1) The only types of watertight doors permissible are hinged doors, sliding doors, and doors of other equivalent patterns, excluding plate doors secured only by bolts and doors required to be closed by dropping or by the action of a dropping weight. Sliding doors may have horizontal or vertical motion. The permissible classes of doors are:

Class 1—Hinged doors.
Class 2—Sliding doors, operated by hand gear only.
Class 3—Sliding doors, operated by power and by hand gear.

(2) Hinged doors shall be quick acting, dog on frame type, with dogs spaced and designed to insure that the opening may be closed thoroughly watertight from either side of the bulkhead.

(c) *Class 1 doors, permissible locations.* Class 1 doors are only permitted above a deck the molded line of which, at its lowest point at side, is at least 7 feet above the deepest subdivision load line.

(d) *Class 2 doors, permissible locations.* (1) Watertight doors, the sills of which are above the deepest subdivision load line and below the line specified in paragraph (c) of this section shall be Class 2.

(2) When the number of watertight doors which may be sometimes opened at sea, and whose sills are below the deepest subdivision load line (excluding doors at entrance to shaft tunnels) does not exceed five, these watertight doors and the shaft tunnel doors shall be Class 2.

(e) *Class 3 doors required locations.* When the number of watertight doors which may be sometimes opened at sea, and whose sills are below the deepest subdivision load line (excluding doors at entrance to shaft tunnels) exceed five, all of these doors and those at the entrance to shaft tunnels shall be Class 3, and shall be capable of being simultaneously closed from a central station situated on the bridge.

(f) *Design, installation, and tests.* (1) The design of all watertight doors shall be subject to approval by the Commandant.

(2) Each Class 1 door installed on a vessel in ocean or coastwise service shall be tested by water pressure to a head up to the margin line, but in no case less than 10 feet. Such doors on vessels in other services shall be tested in the same manner as the bulkhead in which they are fitted.

(3) Each Class 2 and Class 3 door shall be designed, tested, and installed in accordance with Subpart 163.001 of Subchapter Q (Specifications) of this chapter.

(g) *Relaxation of requirements.* The Commandant may allow a relaxation of the requirements of this section in exceptional cases where it is shown to be unreasonable or impracticable to meet the requirements.

§ 191.10-30 Openings in vessel's sides below the bulkhead deck.

(a) *General.* (1) The number of openings in vessel's sides below the bulkhead deck shall be reduced to the minimum compatible with the proper design and working of the vessel.

(2) The arrangement and efficiency of the means for closing each opening shall be consistent with its intended purpose and the position in which it is fitted, and shall be to the satisfaction of the Commandant.

(b) *Port lights.* (1) If, in a 'tween deck, the sills or any port lights are below a line drawn parallel to the molded line of the bulkhead deck at side and having its lowest point 2½ percent of the breadth of the vessel above the deepest subdivision load line, all port lights in that 'tween deck shall be of a nonopening type.

(2) All port lights, the sills of which are below the bulkhead deck, other than those required to be of a nonopening type shall be of such construction as will effectively prevent any person opening them without the consent of the master of the vessel.

(3) No port lights shall be fitted in spaces which are appropriated exclusively to the carriage of stores.

(4) Design of port lights below the bulkhead deck as follows:

(i) All port lights are to be of substantial construction subject to approval of the Commandant.

(ii) Nonopening port lights are to be thoroughly watertight and port lights which are capable of being opened shall be so constructed that they can be easily and effectively closed and secured watertight. Port lights capable of being opened shall have fitted to one or more of the bolts a special round slotted or recessed nut requiring a special wrench. The special nuts are to be protected by sleeves or guards so as to render them incapable of being released by the use of ordinary tools, such as pipe wrenches, etc.

(c) *Deadlights.* (1) Port lights to space below the freeboard deck, as defined in Subchapter E (Load Lines) of this chapter, or to spaces within enclosed superstructure shall be fitted with hinged deadlight covers.

(2) Dead covers shall be of efficient design and arranged so that they can be easily and effectively secured watertight. Where fitted to opening-type port lights, they shall be of such design that it will not be necessary to release the special or locked nut in order to secure the dead cover.

(d) *Side ports.* Gangway, loading ports, and similar openings in the vessel's sides shall be designed and constructed to the approval of the Commandant. Such ports or openings shall be in no case fitted so as to have their lowest point below the deepest subdivision load line.

(e) *Piping openings in vessel's sides.* Requirements for inlets and discharges of scuppers, sanitary piping, main and auxiliary machinery piping, and ash and rubbish-chutes, etc., are in § 55.10-70 of Subchapter F (Marine Engineering) of this chapter.

§ 191.10-35 Watertight integrity above the margin line.

(a) *General.* (1) All reasonable and practicable measures shall be taken to limit the entry and spread of water above the bulkhead deck. Such measures may include partial bulkheads or webs.

(2) When partial watertight bulkheads and webs are fitted on the bulkhead deck above or in the immediate vicinity of main subdivision bulkheads, they shall have watertight shell and bulkhead deck connections so as to restrict the flow of water along the deck when the vessel is in a heeled-damaged condition. Where the partial watertight bulkhead does not line up with the bulkhead below, the bulkhead deck between shall be made effectively watertight.

(b) *Decks.* (1) The bulkhead deck or a deck above it shall be weathertight in the sense that in ordinary sea conditions water will not penetrate in a downward direction.

(2) Freeing ports, open rails, and/or scuppers shall be fitted as necessary for rapidly clearing the weather deck of water under all weather conditions.

(c) *Side openings.* (1) All side openings in the vessel's shell above the bulkhead deck and all deck openings in or above the bulkhead deck shall comply with the applicable requirements of Subchapters E (Load Lines) and F (Marine Engineering) of this chapter for type closures and fittings. Port lights, gangway, and stowing ports and other means for closing openings in the shell plating above the margin line shall be of efficient design and construction and of sufficient strength having regard to the spaces in which they are fitted and their positions relative to the deepest subdivision load line.

(2) Efficient inside dead covers, arranged so that they can be easily and effectively closed and secured watertight, shall be provided for all port lights to spaces below the first deck above the bulkhead deck.

Subpart 191.15—Stability Test

§ 191.15-1 When required.

(a) Except as otherwise provided in this section, each vessel to which this part pertains shall be subjected to a stability test conducted under the supervision of the Coast Guard and the results of the test shall be approved before the vessel is placed in service.

(b) The Commandant may allow the stability test of a vessel to be dispensed with provided basic stability data are available from the stability test of a sister vessel and it is shown to the satisfaction of the Commandant that reliable stability information for the exempted vessel can be obtained from such basic data.

(c) Except for vessels on an international voyage, the Commandant may allow the stability test of a vessel to be dispensed with in exceptional cases where it can be shown to his satisfaction that due to the form, construction, and arrangement of the vessel stability calculations can be safely made without a stability test being performed.

§ 191.15-5 Procedure.

(a) *Plans required.* The following plans are essential for use in conducting the stability test and determining the results, and if these plans have not been previously submitted, they shall be made available at the time of the test:

Lines plan.
Curves of form, or hydrostatic curves.
General arrangement plan of decks, holds, inner bottoms, etc.
Inboard and outboard profile.
Midship section.
Capacity plan showing capacities and vertical and longitudinal centers of gravity of cargo spaces, tanks, etc.
Tank sounding tables.
Draft mark locations.

(b) *Stability test preparations.* (1) Preparations as noted in this paragraph shall be made to place a vessel in suitable condition for a stability test. The Coast Guard representative supervising the stability test may relax from these standards in a particular instance if, in his opinion, such relaxation is warranted and will not materially affect the reliability of the results of the test.

(2) To obtain dependable stability results, all tanks on the vessel, as far as practicable, shall be either completely empty and dry or fully pressed up and without air pockets. Where this is impracticable, slack tanks may be accepted provided their free surface can be readily and accurately determined for the angles of heel to be obtained during the stability test.

(3) The vessel shall be as nearly complete as practicable when the test is conducted. If additional material or equipment is to be installed after the test, a complete list of such items by weight and location shall be prepared.

(4) All dunnage, tools, and other items extraneous to the completed vessel shall be removed before the test.

(5) The vessel shall be moored in a location reasonably protected from broadside wind, waves, and tide. The depth of water shall be sufficient to provide ample clearance under the vessel against grounding. Mooring lines shall be arranged so that they will not interfere with the free rolling or listing of the vessel.

Subpart 191.20—Stability Standards

§ 191.20-1 General.

(a) With the vessel in the intact condition, the net metacentric height at any operating draft, including allowance for normally slack tanks, shall not be less than the standards outlined in this subpart, taken singly, and the most severe requirement shall govern at any particular draft.

§ 191.20-5 Weather criteria.

(a) The required minimum metacentric height (GM) in feet at any particular draft is obtained from the following formula:

$$GM = PAh \div \Delta \tan \theta$$

where:

$P = 0.005 + (L/14{,}200)^2$ tons/ft^2 for ocean and coastwise service.

$P = 0.0033 + (L/14{,}200)^2$ tons/ft^2 for partially protected waters such as lakes, bays and sounds, and Great Lakes (summer service).

$P = 0.0025 + (L/14{,}200)^2$ tons/ft^2 for protected waters such rivers, harbors, etc.

L = Length between perpendiculars in feet.

A = Projected lateral area in square feet of portion of vessel above waterline.

h = Vertical distance in feet from center of A to center of underwater lateral area or approximately one-half draft point.

Δ = Displacement in long tons.

θ = Angle of heel to one-half the freeboard to the deck edge or 14 degrees whichever is less. (For vessels having a discontinuous weather deck or abnormal sheer, the angle to one-half the freeboard may be suitably modified).

§ 191.20-10 Special cases.

(a) The criteria in § 191.20-5 is generally limited in application to flush deck powered vessels of ordinary form and proportions. In the case of vessels not considered to come in this category, the Commandant may require or accept a modification of these criteria or such additional calculations as may be necessary to demonstrate the limits of safe operation.

§ 191.20-15 Damaged stability standards.

(a) *General requirements.* Sufficient intact stability shall be provided in all service conditions so as to enable the vessel to withstand flooding in any one main compartment. Assumed damage shall extend transversely one-fifth the beam, longitudinally 10 feet plus 3 percent of the load waterline length, or 35 feet, whichever is less, with no main bulkhead involved, and vertically from base line upward without limit.

(b) *Damaged stability calculations.* (1) The requirement of paragraph (a) of this section shall be determined by calculations which take into consideration the proportions and design characteristics of the vessel and the arrangement and configuration of the damaged compartments. Where decks, inner skins, or longitudinal bulkheads are to be fitted of sufficient tightness to seriously restrict the flow of water, the Commandant shall be satisfied that proper consideration is given to such restrictions in the calculations. Where it is considered that the range of stability in the damaged condition is doubtful, the Commandant will require the investigation thereof.

(2) In making these calculations the vessel is to be assumed in the worst anticipated service condition as regards stability.

(3) For damaged stability calculations the volume and surface permeabilities shall be in general as indicated in Table 191.20-15(b)(3). Higher surface permeabilities are to be assumed in respect to spaces which, in the vicinity of the damage waterplane, contain no substantial quantity of accommodation or machinery and spaces which are not generally occupied by any substantial quantity of cargo or stores. The maximum surface permeability which must be assumed need not exceed 95.

Table 191.20-15(b)(3)

Spaces	*Permeability*
Appropriated to cargo or stores	60
Appropriated to accommodations	95
Appropriated to machinery	85
Intended for liquids (use value resulting in more severe requirement)	0 or 95

(4) Unsymmetrical flooding is to be kept to a minimum consistent with efficient arrangements. Where it is necessary to correct large angles of heel, the means adopted shall, where practicable, be self-acting, but in any case where controls to cross-flooding fittings are provided they shall be operable from above the bulkhead deck. The construction and arrangement of such fittings and of their controls, together with the estimated maximum heel before equalization is subject to approval by the Commandant. The time for equalization to acceptable heel limits, as provided in paragraphs (b) (6) and (7) of this section, shall in no case be more than 15 minutes.

(5) For symmetrical flooding, or in the case of unsymmetrical flooding after equalization measures have been taken, there shall be a positive residual metacentric height of at least 2 inches (calculated on the basis of the initial undamaged displacement).

(6) For unsymmetrical flooding the remaining heel after equalization by use of manually operated cross connections shall not exceed 7 degrees. Where equalization is either self-acting through open cross connections of large area or where no equalization is involved, a greater heel up to, but not in excess of, 15 degrees may be allowed. Where final heel in excess of 7 degrees is allowed, it must be shown to the satisfaction of the Commandant that the range and dynamic reserve of stability in the damaged condition is satisfactory.

(7) In no case shall the margin line be submerged in the final stage of flooding. If it is considered that the margin line may become submerged during an intermediate stage of flooding, the Commandant may require such investigations and arrangements as shall be considered necessary for the safety of the vessel.

(8) Righting arm curves for the vessel in the flooded condition shall be submitted in those cases where:

(i) The final equilibrium heel angle is greater than 7 degrees; or,

(ii) An intermediate heel angle prior to equalization is in excess of 15 degrees; or,

(iii) The margin line is immersed during intermediate flooding.

(c) *Relaxation of requirements.* (1) No relaxation from the requirements for damaged stability may be considered by the Commandant unless it is shown that the intact metacentric height in any service condition necessary to meet these requirements is excessive for the service intended.

(2) Relaxations from the requirements for damaged stability shall be permitted only in exceptional cases and subject to the condition that the Commandant is to be satisfied that the proportions, arrangements and other characteristics of the vessel are the most favorable to stability after damage which can practically and reasonably be adopted in the particular circumstances.

§ 191.20-20 Special operating conditions.

(a) Where a vessel may be operated under conditions where its stability will be affected by factors not covered by §§ 191.20-5 and 191.20-15 such factors shall be investigated to determine if the vessel has sufficient stability to meet such conditions.

Subpart 191.25—Ballast

§ 191.25-1 When required.

(a) Where it is determined that a vessel does not have sufficient stability to meet the requirements of the stability standard and the characteristics of the vessel cannot be altered to provide the required stability, ballast may be required. This ballast may be solid fixed ballast, liquid ballast, or both.

§ 191.25-5 Fixed ballast.

(a) When fixed ballast is installed, its amount and location shall be included in the stability information provided the vessel.

(b) Fixed ballast shall not be removed from the vessel or relocated unless first approved by the Commandant, except that such ballast may be temporarily moved for examination or repair of the vessel and then only under the supervision of a marine inspector.

§ 191.25-10 Liquid ballast.

(a) Liquid ballast may be used when necessary to provide satisfactory draft, trim, weight distribution, or stability.

(b) The liquid ballast used in an oil tank must be discharged in accordance with—

(1) Section 311 of the Federal Water Pollution Control Act, as amended (86 Stat. 816; 33 U.S.C. 1321);

(2) Section 12 of the Oil Pollution Act, 1961, as amended (75 Stat. 404; 33 U.S.C. 1011); and

(3) 33 CFR parts 151, 155, and 156.

(R.S. 4405, as amended, R.S. 4417a, as amended, R.S. 4462, as amended, sec. 6(b)(1), 80 Stat. 937; 46 U.S.C. 375, 391a, 416, 49 U.S.C. 1655(b)(1); 49 CFR 1.46 (b) and (o)(4))

[CGFR 67-83, 33 FR 1130, Jan. 27, 1968, as amended by CGD 73-58R, 39 FR 18768, May 30, 1974]

Subpart 191.30—Stability Instructions for Operating Personnel

§ 191.30-1 Data supplied master.

(a) The master shall be supplied with such reliable information as is necessary to enable him by rapid and simple processes to obtain accurate guidance as to the stability of the ship under varying conditions of service, so as to permit compliance with stability requirements.

(b) This information and necessary related plans and data shall be submitted to the Commandant for approval.

§ 191.30-5 Conditions under which calculations made.

(a) The master of the vessel shall be informed of the conditions under which the damaged stability calculations have been made and advised to what extent the vessel can safely withstand damage under these assumed conditions.

§ 191.30-10 Cross-flooding.

(a) In the case of a vessel requiring cross-flooding, the master shall be provided with the conditions of stability on which the calculations of heel are based and be warned that excessive heel might result should the vessel sustain damage when in a less favorable condition. Suitable information shall be supplied concerning the use of any special cross-flooding fittings.

§ 191.30-15 Type of instructions.

(a) In all vessels on international voyages the information called for by this subpart shall be provided in booklet form; at least two copies, one for the master and one for the chief engineer, being supplied each ship. Included as part of these booklets, at suitably reduced scale, shall be plans showing clearly for each deck and hold the boundaries of the watertight compartments, the openings therein with the means of closure and position of any controls thereof, and the arrangements for the correction of any list due to flooding.

(b) Depending upon the extent of necessary information, such booklets may also be required for vessels not on international voyages. In any case, it will be required that any information necessary to compliance with stability and watertight integrity requirements be supplied.

(c) Whenever alterations are made to the vessel so as to materially affect the stability information, amended stability information shall be provided. If necessary, the vessel shall have a new stability test.

Subpart 191.35—Stability Letter

§ 191.35-1 Posting.

(a) Each vessel subject to the requirements of this part shall have posted under glass or other transparent material in the pilothouse a stability letter issued by the Coast Guard before the vessel is placed in service.

§ 191.35-5 Information contained in stability letter.

(a) Stability letters will record approval of the information required by Subpart 191.30 and will set forth the master's responsibility for maintaining satisfactory stability conditions at all times.

(b) Stability letters issued to vessels which are exempted from a stability test in accordance with § 191.15-1 will record this fact.

Subpart 191.90—Vessels Contracted for Prior to March 1, 1968

§ 191.90-1 Requirements.

(a) Except for vessels covered by paragraph (b) of this section, vessels contracted for prior to March 1, 1968, shall meet the following requirements:

(1) Existing arrangements, materials, and facilities previously approved will be considered satisfactory so long as they meet the minimum requirements of this paragraph and they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original installation: *Provided*, That in no case will a great-

er departure from the standards of Subparts 191.05 through 191.35 be permitted than presently exists.

(2) The details and arrangements shall be in general agreement with the applicable provisions of Subparts 191.05 through 191.35 insofar as is reasonable and practicable.

(b) Vessels contracted for prior to March 1, 1968, which were allowed to substitute subdivision for lifeboatage i.e., which carry 125 percent primary lifesaving equipment in lieu of 250 percent, shall meet the standards of Subparts 191.05 through 191.35 applicable to vessels contracted for on or after March 1, 1968.

§ 191.90-5 Stability information.

(a) For vessels contracted for prior to March 1, 1968, the owners shall furnish for maintenance on the vessels and use by the master and chief engineer two copies of any information necessary to maintain compliance with stability and watertight integrity applicable to such vessels.

(b) Whenever alterations are made to the vessel so as to materially affect the stability information, amended stability information shall be provided to the vessel for use by the master and chief engineer.

(c) This stability information shall be made available to marine inspectors upon request.

§ 191.90-10 Stability letter.

(a) Each vessel subject to this subpart shall have posted under glass or other transparent material in the pilothouse a stability letter issued by the Coast Guard.

(b) The stability letter will record approval of the information required by this part and will set forth the master's responsibility for maintaining satisfactory stability conditions at all times. If the vessel was exempted from a stability test, the stability letter will record this fact whenever issued on or after March 1, 1968.

PART 192—LIFESAVING EQUIPMENT

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Subpart 192.65—Emergency Position Indicating Radiobeacon (EPIRB)

192.65-1 Emergency position indicating radiobeacon (EPIRB).

AUTHORITY: R.S. 4405, as amended, 4462, as amended, sec. 5, 79 Stat. 424; 46 U.S.C. 375, 416, 445. Interpret or apply R.S. 4417, as amended, 4418, as amended, 4453, as amended, 4488, as amended, sec. 10, 35 Stat. 428, as amended, 41 Stat. 305, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 17, 54 Stat. 166, as amended, sec. 6(b)(1), 80 Stat. 938; 46 U.S.C. 391, 392, 435, 481, 395, 363, 367, 526p, 49 U.S.C. 1655(b), E.O. 11239; 3 CFR, 1964-1965 Comp.; 49 CFR 1.4(a)(2), unless otherwise noted.

SOURCE: CGFR 67-83, 33 FR 1135, Jan. 27, 1968, unless otherwise noted.

Subpart 192.01—Application

§ 192.01-1 General.

(a) The provisions of this part shall apply to all vessels other than non-self-propelled vessels of less than 300 gross tons, unless otherwise specifically noted in this part.

(b) Non-self-propelled vessels of less than 300 gross tons shall not be subject to the provisions of this part except for life preservers required by Subpart 192.40.

Subpart 192.05—General Provisions Pertaining to Lifesaving Equipment

§ 192.05-1 Equipment of an approved type.

(a) Where equipment in this part is required to be of an approved type, such equipment requires the specific approval of the Commandant. Such approvals are published in the FEDERAL REGISTER, and in addition, are contained in Coast Guard publication CG-190, "Equipment Lists."

(b) Specifications for many of the items required to be of an approved type have been promulgated and are contained in Subchapter Q (Specifications) of this chapter. In general, such specifications are of interest only to the manufacturer of specific items of equipment.

§ 192.05-5 Equipment installed but not required.

(a) Where items of lifesaving equipment are not required, but are installed, such equipment and its installation shall meet the requirements of this part.

§ 192.05-10 Primary lifesaving equipment.

(a) The term "primary lifesaving equipment" means a lifeboat or an acceptable substitute. The acceptable substitutes may include liferafts, lifefloats, rescue boats, and buoyant apparatus under certain conditions. Life preservers and ring life buoys are not included in the definition of "primary lifesaving equipment."

Subpart 192.10—Lifeboats, Liferafts, Lifefloats, Buoyant Apparatus, and Rescue Boats

§ 192.10-1 Application.

(a) Except as otherwise provided in this section, the provisions of this subpart shall apply to all vessels contracted for on or after March 1, 1968.

(b) Vessels contracted for prior to March 1, 1968, shall meet the requirements of § 192.10-90.

(c) In the case of special types of vessels subject to the International Convention for Safety of Life at Sea, 1960, which are not specifically treated in this subpart, the Commandant may give special consideration as to lifesaving equipment requirements to the extent permitted by the International Convention for Safety of Life at Sea, 1960.

§ 192.10-5 Type of lifeboats, liferafts, lifefloats, buoyant apparatus, and rescue boats required.

(a) *Lifeboats.* (1) All lifeboats shall be of an approved type, constructed in accordance with Subpart 160.035 of Part 160 of Subchapter Q (Specifications) of this chapter except as specifically noted in this part.

(2) All lifeboats certified to carry 60 or more but not over 100 persons shall be either motor lifeboats or shall be fitted with an approved type of hand-propelling gear. Lifeboats carrying more than 100 persons shall be motor lifeboats.

(3) A Class 1 motor lifeboat is one that is fitted with a compression-ignition engine, is capable of being readily started in all conditions, and has sufficient fuel for 24 hours continuous operation. The speed ahead in smooth water when loaded with its full complement of persons and equipment shall be at least 6 knots.

(4) Except as further modified in this subparagraph, all lifeboats, except those installed on vessels in river service, shall be fitted with suitable disengaging apparatus consisting of fixed hooks in the lifeboat or mechanical disengaging apparatus. Mechanical disengaging apparatus, if fitted, shall be of an approved type, constructed in accordance with Subpart 160.033 of Subchapter Q (Specifications) of this chapter.

(i) All lifeboats installed on ocean, coastwise, or Great Lakes vessels of over 3,000 gross tons shall be fitted with mechanical disengaging apparatus so arranged as to make it possible for the lifeboats to be launched with their full complement of persons and equipment while such vessels are underway or stopped, and for both ends of the lifeboat to be released simultaneously under tension or not by one person. Simultaneous release shall be effected by partially rotating a shaft which shall be continuous and extended from points of contact with the hooks.

(ii) All lifeboats installed on any particular vessel shall be fitted with the same type of disengaging apparatus.

(iii) On small vessels, the Commandant may approve means other than those previously mentioned to agree with the needs of a particular vessel.

(b) *Liferafts.* (1) All rigid type liferafts shall be of an approved type, constructed in accordance with Subpart 160.018 of Subchapter Q (Specifications) of this chapter. Type A liferafts shall be stowed on the standard liferaft skids required by § 192.15-10(c)(1) unless specifically noted otherwise. Rigid type liferafts shall not be used as required equipment on vessels on an international voyage.

(2) An inflatable liferaft must meet the following:

(i) The liferaft must be approved under Subpart 160.051 of this chapter.

(ii) Except as required in paragraph (b)(2)(iii) of this section, the liferaft must be marked in accordance with § 160.051-8 of this chapter.

(iii) After January 1, 1976 on vessels certificated for Great Lakes service and after January 1, 1980 on other certificated vessels, the liferaft must show on or near the liferaft's nameplate, and the liferaft's container must show on or near the plate, marking approved by a Coast Guard inspector that is—

(A) An approval number consisting of "160.051/" followed by a number that is greater than 49 followed by a revision number (e.g. 160.051/50/1); or

(B) An approval number consisting of "160.051/" followed by a number that is smaller than 50 that is followed by a revision number (e.g. 160.051/48/1), the words "MOD. TEMP.", a Coast Guard inspector's initials, and the date that an inspector found that the liferaft met § 160.051-5(c)(4) of this chapter.

(3) On vessels on an international voyage, each inflatable liferaft shall have a carrying capacity of not less than 6 nor more than 25 persons.

(c) *Lifefloats.* All lifefloats shall be of an approved type, constructed in accordance with Subpart 160.027 of Subchapter Q (Specifications) of this chapter.

(d) *Buoyant apparatus.* All buoyant apparatus shall be of an approved type constructed in accordance with Subpart 160.010 of Part 160 of Subchapter Q (Specifications) of this chapter.

(e) *Rescue boats.* In general, a suitable rescue boat shall be a small lightweight boat of rigid construction, with built-in buoyancy and capable of being readily launched and easily maneuvered. Also it shall be of adequate proportion to permit taking an unconscious person on board without capsizing. A rescue boat and its installation shall be acceptable to the Officer in Charge, Marine Inspection, as suitable for the rescue of persons accidentally falling over the side, or for similar emergency purposes. The size, shape, installation, and other factors of suitability will be determined with due consideration of the size, arrangement, intended service, and crew requirements of the vessel on which it is to be installed. For protected waters, a rescue boat constructed in accordance with Subpart 160.056 of Subchapter Q (Specifications) of this chapter is acceptable in meeting the intent of this paragraph. For exposed waters, a more seaworthy rescue boat may be required, but in no case shall more than one approved lifeboat suitable for rescue work be required.

[CGFR 67-83, 33 FR 1135, Jan 27, 1968, as amended by CGFR 68-65, 33 FR 19993, Dec. 28, 1968; CGD 75-040, 40 FR 58455, Dec. 17, 1975]

§ 192.10-10 Requirements for vessels in ocean or coastwise service.

(a) All vessels shall be provided with sufficient lifeboats on each side of the vessel to accommodate all persons on board.

(b) Lifeboats shall be not less than 24 feet in length, except where owing to the size of the vessel, or for other reasons, the Commandant considers the carriage of such lifeboats to be unreasonable or impracticable. However, in no case shall lifeboats of less than 16 feet in length be used.

(c) All vessels of 1,600 gross tons and over on an international voyage shall carry at least one motor propelled lifeboat of Class 1.

(d) In addition to the lifeboats required by paragraph (a) of this section, each vessel on an international voyage and each vessel in ocean or coastwise service must carry liferafts of sufficient aggregate capacity to accommodate at least 50 percent of the persons on board. Those vessels that have widely separated accommodation or working spaces must have at least one liferaft in each such location.

(e) Inflatable liferafts may be substituted for lifeboats on certain vessels not on an international voyage in accordance with § 192.10-55.

(f) Except for vessels on an international voyage, vessels which meet one compartment subdivision and damage stability requirements and whose structural fire protection is in accordance with the requirements for new vessels contained in Subpart 190.07 of Part 190 of this subchapter may carry primary lifesaving equipment of 100 percent in boats and 25 percent in inflatable liferafts in lieu of that primary lifesaving equipment required by paragraphs (a) and (d) of this section.

[CGFR 67-83, 33 FR 1135, Jan. 27, 1968, as amended by CGD 79-072, 46 FR 28169, May 26, 1981]

§ 192.10-15 Requirements for seagoing barges.

(a) All manned seagoing barges shall be provided with approved lifeboats with sufficient capacity for all persons on board.

(b) Inflatable liferafts may be substituted for lifeboats on certain barges in accordance with § 192.10-55.

§ 192.10-40 Requirements for vessels in Great Lakes; lakes, bays, and sounds; or river service.

(a) All vessels, except those on an international voyage, shall be provided with lifeboats and liferafts as required by Table 192.10-40(a).

Table 192.10-40(a)

Lifeboats and liferafts required on vessels in Great Lakes and lakes, bays, and sounds and river service:	*Percent*
Percentage of persons to be accommodated	100
Percentage of required equipment in lifeboats	50
Percentage of required equipment which may be in Type A or Type B liferafts	50

(b) Inflatable liferafts may be substituted for lifeboats and liferafts on certain vessels in accordance with § 192.10-55.

(c) All vessels on an international voyage shall meet the applicable requirements of § 192.10-10.

§ 192.10-55 Inflatable liferafts as an alternate for lifeboats, other liferafts, lifefloats, and buoyant apparatus on certain vessels not on an international voyage.

(a)(1) On all vessels inflatable liferafts may be permitted as substitutes for other types of liferafts, lifefloats, and buoyant apparatus wherever they may be required.

(2) The capacity of inflatable liferafts carried in place of other liferafts, lifefloats, and buoyant apparatus shall be at least equivalent to that required of the equipment for which substitution is made.

(3) The substitution of inflatable liferafts shall not be made without prior approval of the Officer in Charge, Marine Inspection.

(b) On all vessels less than 3,000 gross tons the substitution of liferafts for lifeboats may be permitted as follows:

(1)(i) On all vessels under 500 gross tons, inflatable liferafts may be substituted for all required lifeboats.

(ii) The total capacity of the inflatable liferafts shall be at least equal to the total number of persons that the lifeboats would have been required to accommodate. Partial substitution is permissible provided the aggregate lifeboat and inflatable liferaft capacity is sufficient to accommodate the required number of persons, as indicated above.

(iii) Vessels certificated for ocean, coastwise, or Great Lakes service, where substitution of inflatable liferafts is made, at least a 16-foot approved lifeboat shall be provided for rescue purposes. Vessels certificated for other than ocean, coastwise or Great Lakes service where substitution of inflatable liferafts is made, an approved lifeboat or a rescue boat as described in § 192.10-5(e) shall be provided. In the case of partial substitution, an approved lifeboat may serve as the rescue boat.

(2) (i) On all vessels of 500 gross tons and upward to 1,600 gross tons, inflatable liferafts may be substituted for all required lifeboats provided one approved lifeboat of a size acceptable to the Officer in Charge, Marine Inspection, suitable for rescue purposes, is installed.

(ii) The aggregate lifeboat and inflatable liferaft capacity shall be at least equal to the total number of persons that the lifeboats would have been required to accommodate.

(iii) The launching arrangement and location of the lifeboat to be used as rescue boat shall be such that it can be readily launched and shall be to the satisfaction of the Officer in Charge, Marine Inspection.

(3)(i) On all vessels of 1,600 gross tons and upward to 3,000 gross tons, inflatable liferafts may be substituted for all except two of the required lifeboats. These lifeboats shall be of a size acceptable to the Officier in Charge, Marine Inspection, and shall be suitable for rescue purposes. In all cases, two approved lifeboats, one on each side, shall be provided.

(ii) The aggregate lifeboat and inflatable liferaft capacity shall be at least equal to the total number of persons that the lifeboats, for which substitutions are made plus those remaining on board, would have been required to accommodate.

(4) The substitution of inflatable liferafts for lifeboats shall not be made without prior approval of the Officer in Charge, Marine Inspection. However, for new construction this approval may be granted by the Commandant.

(c) On all seagoing barges of 100 gross tons and over an inflatable liferaft may be substituted for the required lifeboat, the total capacity of which shall be sufficient to accommodate all persons on board. Where substitution of inflatable liferafts is made, a suitable rescue boat shall be provided.

(d) The Commandant may give special consideration to the substitution of approved inflatable liferafts for required lifeboats on vessels of 3,000 gross tons and over.

§ 192.10-90 Vessels contracted for prior to March 1, 1968.

(a) Vessels contracted for prior to March 1, 1968, shall meet the following requirements:

(1) Except as specifically modified by this paragraph, the requirements of §§ 192.10-5 through 192.10-55 shall be complied with insofar as the number and general type of lifesaving equipment is concerned.

(2) Existing items of lifesaving equipment previously approved, but not meeting the applicable specifications or requirements set forth in §§ 192.10-5 through 192.10-55 may be continued in service so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs, alterations, and replacements may be permitted to the same standards as the original installation. However, all new installations or major replacements shall meet the applicable specifications or requirements for new vessels.

Subpart 192.15—Stowage and Marking of Lifeboats, Liferafts, Lifefloats, and Buoyant Apparatus

§ 192.15-1 Application.

(a) The provisions of this subpart, with the exception of § 192.15-90, shall apply to all vessels contracted for on or after March 1, 1968.

(b) Vessels contracted for prior to March 1, 1968, shall meet the requirements of § 192.15-90.

§ 192.15-5 General.

(a) The lifeboats, liferafts, lifefloats, and buoyant apparatus shall be readily available in the case of emergency, and shall be kept in good working order and available for immediate use at all times when the vessel is being navigated and, insofar as reasonable and practicable, while the vessel is not being navigated.

(b) The decks on which lifeboats, liferafts, lifefloats, and buoyant apparatus are carried shall be kept clear of any obstructions which would interfere with the immediate launching of the lifesaving appliances.

§ 192.15-10 Stowage.

(a) *General.* Lifeboats, liferafts, lifefloats, and buoyant apparatus shall be stowed in such a manner that:

(1) They are capable of being launched in the shortest possible time.

(2) They shall not impede the launching or handling of other lifesaving appliances.

(3) They shall not impede the marshalling of persons at the embarkation stations, or their embarkation.

(4) They shall be capable of being put in the water safely and rapidly even under unfavorable conditions of list and trim.

(b) *Lifeboat stowage.* (1) Every lifeboat shall be attached to a separate set of davits.

(2) Suitable access to the lifeboats shall be provided to enable the crew to prepare the lifeboats for launching.

(3) Lifeboats shall be so stowed that embarkation into them may be made rapidly and in good order.

(4) Lifeboats shall not be stowed in the bows of the vessel nor as far aft as to be endangered by the propellers or overhang of the stern. The clear horizontal distance between the after lifeboat davit and the propeller shall be not less than 1.5 times the length of the lifeboat without special acceptance by the Commandant. Where the vessel has extreme shape or where other factors are present affecting the clear launching of the lifeboat, the Commandant may require this distance to be increased.

(5) Lifeboats shall be so stowed that it shall not be necessary to lift them in order to swing out the davits, except on small vessels where such requirement is unreasonable and impracticable in the opinion of the Officer in Charge, Marine Inspection.

(6) Means shall be provided for bringing the lifeboats against the ship's side and holding them there so that persons may be safely embarked.

(7) On vessels certificated for ocean or coastwise service, lifeboats shall be fitted with skates or other suitable means to facilitate launching against an adverse list of up to 15 degrees. However, skates may be dispensed with if, in the opinion of the Commandant, the arrangements are such as to insure that the lifeboats can be satisfactorily launched without such skates.

(8) On vessels in ocean and coastwise service, where applicable, means shall be provided outside the machinery space to prevent the discharge of water into the lifeboats while they are being lowered. This shall consist of baffles to deflect the water down the vessel's side, or reach rods, or other means to close the discharge openings.

(c) *Liferaft stowage.* (1) Type A liferafts shall be stowed on standard skids, constructed in accordance with Subpart 160.042 of Part 160 of Subchapter Q (Specifications) of this chapter.

(2) Type B liferafts shall be stowed in such a manner that they may be readily launched.

(3) Inflatable liferafts shall be stowed in such a manner that they will float free in the event of the vessel sinking. Stowage and launching arrangements will be to the satisfaction of the Officer in Charge, Marine Inspection.

(d) *Lifefloat and buoyant apparatus stowage.* (1) Lifefloats and buoyant apparatus shall be stowed in such a manner as to be readily launched. Lifefloats exceeding 400 pounds in weight shall be stowed in such a manner as not to require lifting before launching.

(2) Lifefloats and buoyant apparatus shall not be secured to the vessel except by lashings which can be easily slipped. They may be stowed in tiers one above the other, but not more than four high. When stowed in tiers, the separate units shall be kept apart by suitable distance pieces.

(3) Means shall be provided to prevent shifting.

(e) *Hydraulic releases.* (1) Hydraulic releases approved under Subpart 160.062 of Subchapter Q (Specifications) of this chapter, and spring-tensioned gripes may be permitted in the installation of any liferaft, inflatable liferaft, lifefloat, or buoyant apparatus. On and after July 1, 1969, only hydraulic releases approved under Subpart 160.062 of this chapter may be used.

(2) Existing hydraulic releases may be returned to their manufacturers or to repair facilities designated by their manufacturers for the purpose of determining compliance with Subpart 160.062 of this chapter. If such a release passes the periodic servicing and testing requirements in § 160.062-4(f) of this chapter and the reconditioning work (if any) is done to the satisfaction of the Officer in Charge, Marine Inspection, the complete body marking and inspection tagging required by § 160.062-5 of this chapter shall be placed on such a release indicating it is an approved item.

[CGFR 67-83, 33 FR 1135, Jan. 27, 1968, as amended by CGFR 68-32, 33 FR 5729, Apr. 12, 1968]

§ 192.15-15 Marking.

(a) Lifeboats, liferafts, lifefloats, and buoyant apparatus shall be marked as required by §§ 196.37-37 and 196.37-40 of this subchapter.

§ 192.15-90 Vessels contracted for prior to March 1, 1968.

(a) Vessels contracted for prior to March 1, 1968, shall meet the following requirements:

(1) The provision of §§ 192.15-5 through 192.15-15 shall be met except as further set forth in this paragraph.

(2) The requirements of § 192.15-10(b)(7) shall apply unless in the opinion of the Officer in Charge, Marine Inspection, it is unreasonable or impracticable, or the arrangement or construction of the vessel make the use of skates or similar appliances unnecessary.

(b) Existing arrangements or construction previously approved will be considered satisfactory so long as they are maintained in a good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original design provided that in no case will a greater departure from the standards of §§ 192.15-5 through 192.15-15 be permitted than presently exists.

Subpart 192.20—Equipment for Lifeboats, Liferafts, Lifefloats, and Buoyant Apparatus

§ 192.20-1 Application.

(a) The provisions of this subpart, with the exception of § 192.20-90, shall apply to all vessels contracted for on or after March 1, 1968.

(b) Vessels contracted for prior to March 1, 1968, shall meet the requirements of § 192.20-90.

§ 192.20-5 General.

(a) Equipment for lifeboats, liferafts, lifefloats, and buoyant apparatus shall be of good quality, efficient for the purpose they are intended to serve, and kept in good condition.

(b) Lifeboats, liferafts, lifefloats, and buoyant apparatus shall be fully equipped before the vessel is navigated and the equipment shall remain in such lifesaving appliances throughout the voyage, except as provided in § 196.15-45(e) of this subchapter.

(c) It shall be unlawful to stow in any lifeboat, liferaft, lifefloat, or buoyant apparatus any article not required by this subpart unless such article can be properly stowed so as not to reduce the seating capacity or space available to the occupants and so as not to adversely affect the seaworthiness of such appliances or, in the case of lifeboats, overload the davits or winches.

(d) Loose equipment, except boathooks in lifeboats, shall be securely attached to the lifesaving appliance to which it belongs.

§ 192.20-10 Required equipment for lifeboats.

(a) The lifeboats for all vessels shall be equipped in accordance with Table 192.20-10(a). For a description of the items contained in this table, and the units comprising the items, see the applicable paragraphs of § 192.20-15. The letter identification prefixing the item in the table corresponds to the paragraph designations in § 192.20-15.

Table 192.20-10(a)

Letter identification	Item	Ocean and coastwise		Great Lakes	Lakes, bays and sounds; and rivers
		Other than seagoing barges	Seagoing barges		
a	Bailer	1	None	1	None.
b	Bilge pump	1[1]	None	None	None.
c	Boathooks	2	2	1	1.
d	Bucket	2	1	1	1.
e	Compass and mounting	1	None	None	None.
f	Ditty bag	1	None	None	None.
g	Drinking cups	1	1	None	None.
h	Fire extinguishers (motor-propelled lifeboats only)	2	2	2	2.
i	First-aid kit	1	None	None	None.
j	Flashlight	1	None	1	None.
k	Hatchets	2	None	2	1.
l	Heaving line	2	None	None	None.
m	Jackknife	1	1	None	None.
n	Ladder, lifeboat gunwale	1	None	None	None.
o	Lantern	1	1	1	1.
p	Lifeline	1	1	1	1.
q	Life preservers	2	2	2	2.
r	Locker	1	None	1	None.
s	Mast and sail (oar-propelled lifeboats only)	1	None	None	None.
t	Matches (boxes)	2	2	1	1.
u	Milk, condensed (pounds per person)	1	None	None	None.
v	Mirrors, signaling	2	None	None	None.
w	Oars	1 unit[3]	1 unit[2]	1 unit[2]	1 unit.[2]
x	Oil, illuminating (quarts)	1	None	1	None.
y	Oil, storm (gallons)	1	None	1	None.
z	Painter	2	1	2	1.
aa	Plugs	1	1	1	1.
bb	Provisions (pounds per person)	2	None	None	None.
cc	Rowlocks	1 unit[2]	1 unit[2]	1 unit[2]	1 unit.[2]
dd	Rudder and tiller	1	1	1	None.
ee	Sea anchor	1	None	1	None.
ff	Signals, distress, floating orange smoke	2	None	None	None.
gg	Signals, distress, red hand flare	1 unit[2]	None	½ unit[2]	None.
hh	Signals, distress, red parachute flare	1 unit[2] [3]	None	½ unit[2]	None.
ii	Tool kit (motor-propelled lifeboat only)	1 unit[2]	1 unit[2]	1 unit[2]	1 unit.[3]
jj	Water (quarts per person)	3	1	None	None.
kk	Whistle, signaling	1	None	None	None.
ll	Fishing kit	1	None	None	None.
mm	Cover, protecting	1	None	None	None.
nn	Signals, lifesaving	1	None	None	None.
oo	Desalting kit	1[4]	None	None	None.

[1] Motor-propelled lifeboats, certified for 100 or more persons, shall be fitted with an additional hand bilge pump of an approved type or a power bilge pump.

[2] For description of units, see § 192.20-15.

[3] Vessels in coastwise service need only carry 1 unit for each 5 lifeboats or fraction thereof.

[4] Optional equipment. See § 192.20-15(jj) water.

§ 192.20-15 Description of equipment for lifeboats.

(a) *Bailer.* The bailer shall have a lanyard attached and shall be of sufficient size and suitable for bailing.

(b) *Bilge pump.* Bilge pumps shall be of an approved type, constructed in accordance with Subpart 160.044 of Part 160 of Subchapter Q (Specifications) of this chapter. They shall be of the size given in Table 192.20-15(b) depending upon the capacity of the lifeboat as determined by the six-tenths rule as described in § 160.035-8(b) of Subchapter Q (Specifications) of this chapter.

Table 192.20-15(b)

Capacity of lifeboat, cubic feet	Bilge pump size	
	Over	Not over
	330	1
330	700	2
700		3

(c) *Boathooks.* Boathooks shall be of the single hook ballpoint type. Boathook handles shall be of clear grained white ash, or equivalent, and of a length and diameter is given in Table 192.20-15(c).

TABLE 192.20-15(c)

Length of lifeboat, feet		Boathook handles	
Over	Not over	Diameter, inches	Length, feet
	23	1½	8
29	29	1¾	10
23		2	12

(d) *Bucket.* The bucket shall be of heavy gage galvanized iron, or other suitable corrosion-resistant metal, of not less than 2-gallon capacity, and shall have a 6-foot lanyard of 12-thread manila attached.

(e) *Compass and mounting.* The compass and mounting shall be of an approved type, constructed in accordance with U.S. Coast Guard specifications dated December 14, 1944.

(f) *Ditty bag.* The ditty bag shall consist of a canvas bag and shall contain a sailmaker's palm, needles, sail twine, marline, and marline spike.

(g) *Drinking cups.* Drinking cups shall be enamel coated or plastic, graduated in ounces, and be provided with lanyards 3 feet in length.

(h) *Fire extinguisher.* Fire extinguishers shall be of an approved Type B-C, Size I (see § 193.50-5 of this subchapter). One shall be attached to each end of the lifeboat.

(i) *First-aid kit.* The first-aid kit in accordance with Subpart 160.041 of Part 160 of Subchapter Q (Specifications) of this chapter.

(j) *Flashlight.* The flashlight shall be of an approved Size No. 3, constructed in accordance with Subpart 161.008 of this chapter. Three spare cells (or one 3-cell battery) and two spare bulbs, stowed in a watertight container, shall be provided with each flashlight. Batteries shall be replaced yearly during the annual stripping, cleaning, and overhaul of the lifeboat.

(k) *Hatchet.* Hatchets shall be of an approved type, constructed in accordance with Subpart 160.013 of Part 160 of Subchapter Q (Specifications) of this chapter. They shall be attached to the lifeboat by individual lanyards and be readily available for use, one at each end of the lifeboat.

(l) *Heaving Line.* The heaving line shall be of adequate strength, 10 fathoms in length and 1 inch in circumference. It shall be of such quality as to be buoyant after 24 hours submergence.

(m) *Jackknife.* The jackknife (with can opener) shall be of an approved type, constructed in accordance with Subpart 160.043 of Part 160 of Subchapter Q (Specifications) of this chapter.

(n) *Ladder, lifeboat gunwale.* The lifeboat gunwale ladder shall consist of 3 flat wood steps cut out for handholds. The steps shall be spaced 12 inches apart and fastened with ⅝-inch diameter manila rope. Each rope end shall be tied inside the lifeboat at about amidships with the ladder stowed on top of the side benches and ready for immediate use. Other suitable devices may be specifically approved.

(o) *Lantern.* The lantern shall contain sufficient oil to burn for at least 9 hours, and shall be ready for immediate use.

(p) *Lifeline.* The lifeline shall be properly secured to the sides of the lifeboat, along its entire length, festooned in bights not longer than 3 feet, with a seine float in each bight, which float may be omitted if the line is of an inherently buoyant material and absorbs little or no water. The lifeline shall be of a size and strength not less than ⅜-inch diameter manila. The bights shall hang to within 12 inches of the water when the lifeboat is light.

(q) *Life preservers.* Life preservers shall be of an approved type, constructed in accordance with the applicable subparts of Subchapter Q (Specifications) of this chapter.

(r) *Locker.* The locker shall be suitable for the storage and preservation of the small items of equipment.

(s) *Mast and sail.* A unit, consisting of a standing lug sail together with the necessary spars and rigging, shall be provided in general agreement with

Table 192.20-15(s). The sails shall be of good quality canvas, or other material acceptable to the Commandant, colored Indian Orange (Cable No. 70072, Standard Color Card of America). Rope rigging shall consist of galvanized wire not less than three-sixteenths of an inch in diameter. The mast and sail shall be protected by a suitable canvas cover.

(t) *Matches.* A box of friction matches in a watertight container stowed in an equipment locker or secured to the underside of the stern thwart if no locker is fitted.

(u) *Milk, condensed.* One pound of condensed milk shall be provided for each person the lifeboat is certified to carry, to be stowed in lockers or other compartments providing suitable protection.

(v) *Mirrors, signaling.* Signaling mirrors shall be of an approved type (see listing under 160.020 in CG-190, Equipment Lists).

(w) *Oars.* A unit, consisting of a complement of rowing oars and steering oar, shall be provided for each lifeboat in accordance with Table 192.20-15(w), except that motor-propelled and hand-propelled lifeboats need only be equipped with four rowing oars and one steering oar. In any case, the emergency lifeboats shall be provided with the full complement of oars prescribed by the table. All oars shall be buoyant.

TABLE 192.20-15(w)

Length of lifeboat, feet		Number of oars		Length of oars, feet	
Over	Not over	Rowing	Steering	Rowing	Steering
	15	4	1	8	9
15	19	6	1	10	11
19	21	6	1	11	12
21	23	6	1	12	13
23	25	8	1	13	14
25	27	8	1	14	15
27		8	1	15	16

(x) *Oil, illuminating.* One quart of illuminating oil shall be provided in a metal container.

(y) *Oil, storm.* One gallon of vegetable, fish, or animal oil shall be provided in a suitable metal container so constructed as to permit a controlled distribution of oil on the water, and so arranged that it can be attached to the sea anchor.

(z) *Painter.* Painters shall be of manila rope not less than 2¾ inches in circumference, or equivalent, and of a length not less than three times the distance between the deck on which the lifeboat is stowed and the light draft of the vessel. For lifeboats in vessels on ocean, coastwise, or Great Lakes service one of the painters shall have a long eye splice and be attached to the thwart with a toggle. The other painter shall be attached to the stem.

(aa) *Plug.* The automatic drain required in the lifeboat shall be provided with a cap or plug attached to the lifeboat by a suitable chain.

(bb) *Provisions.* Two pounds of hard bread or its approved equivalent shall be provided for each person the lifeboat is certified to carry. The provisions shall be packaged in hermetically sealed cans of an approved type. The cans shall be stowed in lockers or other compartments providing suitable protection.

(cc) *Rowlocks.* A unit, consisting of sufficient rowlocks and rowlock sockets for each oar required by Table 192.20-15(w) plus two additional rowlocks. The rowlocks shall be attached to the lifeboat by separate chains so as to be available for immediate use, except that the two additional spare rowlocks shall be carried in the equipment locker or stowed near the stern if no locker is fitted. The rowlocks and rowlock sockets shall be distributed so as to provide the maximum amount of single banked oars practicable.

(dd) *Rudder and tiller.* The rudder and tiller shall be constructed in accordance with § 160.035-3(t) in Subpart 160.035 of Subchapter Q (Specifications) of this chapter.

(ee) *Sea anchor.* The sea anchor shall be of an approved type (see listing under 160.019 in CG-190, Equipment Lists).

(ff) *Signals, distress, floating orange smoke.* Two approved floating orange smoke distress signals, constructed in accordance with Subpart 160.022 of Part 160 of this Subchapter Q (Specifications) of this chapter. The service use of this equipment shall be limited to 3 years from date of manufacture, and replacement shall be made no later than the first annual stripping, cleaning, and overhaul of the lifeboat after the date of expiration.

(gg) *Signals, distress, red hand flare.* A unit, consisting of 12 approved hand red flare distress signals in a watertight container, constructed in accordance with Subpart 160.021 or Subpart 160.023 of Part 160 of Subchapter Q (Specifications) of this chapter. The service use of this equipment shall be limited to 3 years from date of manufacture, and replacement shall be no later than the first annual stripping, cleaning, and overhaul of the lifeboat after the date of expiration.

(hh) *Signals, distress, red parachute flare.* A unit, consisting of 12 parachute red flare distress signals with an approved means of projecting them, all contained in a portable watertight container; or 12 approved hand-held rocket-propelled parachute red flare distress signals contained in a portable watertight container. Construction shall be in accordance with Subparts 160.024 and 160.028 or Subpart 160.036 of Part 160 of Subchapter Q (Specifications) of this chapter. The service use of this equipment shall be limited to 3 years from date of manufacture, and replacement shall be no later than the first annual stripping, cleaning, and overhaul of the lifeboat after the date of expiration.

(ii) *Tool kit.* The tool kit shall consist of at least the following tools contained in a suitable container:

(1) One 12-ounce ball peen hammer.

(2) One screwdriver with 6-inch blade.

(3) One pair 8-inch slip joint pliers.

(4) One 8-inch adjustable end wrench.

(jj) *Water.* (1) For each person the lifeboat is certified to carry, there shall be provided 3 quarts of drinking water consisting of nine approved hermetically sealed containers per person, constructed and filled in accordance with Subpart 160.026 of Part 160 of Subchapter Q (Specifications) of this chapter. The service life of this equipment shall be limited to 5 years from date of packing, and replacement shall be made no later than the first annual stripping, cleaning, and overhaul of the lifeboat after the date of expiration. Approved desalting kits capable of producing an equal amount of drinking water may be substituted for not more than one-third of the drinking water required to be carried.

(2) The drinking water containers shall be stowed in drinking water tanks, lockers, or other compartments providing suitable protection.

(kk) *Whistle, signaling.* The whistle shall be of the ball type, of corrosion-resistant construction, with a 3-foot lanyard attached, and in good working order.

(ll) *Fishing kit.* The fishing kit shall be of an approved type constructed in accordance with Subpart 160.061 of Part 160 of Subchapter Q (Specifications) of this chapter.

(mm) *Cover, protecting.* The protecting cover shall be of a highly visible color, and capable of protecting the occupants against injury by exposure.

(nn) *Table of lifesaving signals.* The table shall be in accordance with the provisions of Chapter V, Regulation 16, of the International Convention for Safety of Life at Sea, 1960, and shall be printed on water resistant paper.

(oo) *Desalting kit.* One or more approved desalting kits may be used as a substitute for one-third of the required amount of drinking water per person, and shall be constructed in accordance with Subpart 160.058 of Part 160 of Subchapter Q (Specifications) of this chapter.

[CGFR 67-83, 33 FR 1135, Jan. 27, 1968, as amended by CGFR 70-143, 35 FR 19970, Dec. 30, 1970]

§ 192.20-20 Required equipment for liferafts.

(a) The liferafts for all vessels shall be equipped in accordance with Table 192.20-20(a). For a description of the items contained in this table and the units comprising the items see applicable paragraphs of § 192.20-25. The letter identification prefixing the item in the table corresponds to the paragraph designations in § 192.20-25.

(b) Inflatable liferafts shall be equipped with ocean service equipment for vessels on ocean and coastwise routes and with limited service equipment for vessels on Great Lakes, lakes, bays, sounds, and river routes in accordance with Subpart 160.051 of Part 160 of Subchapter Q (Specifications) of this chapter.

NOTE: Subpart 160.051 of Subchapter Q (Specifications) of this chapter requires the servicing of inflatable liferafts at approved servicing facilities. Included in the servicing at an approved servicing facility is a complete inspection of the required equipment by a marine inspector.

TABLE 192.20-20(a)

Letter identification	Item identification	Ocean and coastwise	Great Lakes	Lakes, bays, and sounds; and rivers
a	Boathook	1	1	1.
b	Drinking cups	1	None	None.
c	Jackknife	1	None	None.
d	Lifeline	1 [1]	1 [1]	1.[1]
e	Matches (boxes)	1	1	None.
f	Mirrors, signaling	2	None	None.
g	Oars	1 unit [2]	1 unit [2]	1 unit.[2]
h	Oil, storm (gallons)	1	1	None.
i	Painter	1	1	1.
j	Provisions (pounds per person).	2	None	None.
k	Rowlocks	1 unit [2]	1 unit [2]	1 unit.[2]
l	Sea anchor	1	1	None.
m	Signals, distress	1 unit [2]	1 unit [3]	None.
n	Water (quarts per person).	1	None	None.
o	Water light	1	1	None

[1] Not required on Type A liferafts.
[2] For description of units see § 192.20-25
[3] 1 unit here means 6 hand red flare distress signals and 6 parachute red flare distress signals with an approved means of projecting them.

§ 192.20-25 Description of equipment for liferafts.

(a) *Boathooks.* Boathooks shall be of the single hook ballpoint type. Boathook handles shall be of clear grained white ash, or equivalent, not less than 8 feet long and 1½ inches in diameter.

(b) *Drinking cups.* Drinking cups shall be enameled and provided with ⅛-inch cotton lanyards 3 feet in length.

(c) *Jackknife.* The jackknife (with can opener) shall be of an approved type, constructed in accordance with Subpart 160.043 of Part 160 of Subchapter Q (Specifications) of this chapter.

(d) *Lifeline.* The lifeline shall be properly secured around the sides and ends of the liferaft, festooned in bights not longer than 3 feet, with a seine float in each bight, which float may be omitted if the line is of an inherently buoyant material and absorbs little or no water. The lifeline shall be of a size and strength not less than ⅜-inch diameter manila.

(e) *Matches.* A box of friction matches in a watertight container.

(f) *Mirrors, signaling.* Signaling mirrors shall be of an approved type (see listings under 160.020 in CG-190, Equipment Lists).

(g) *Oars.* A unit, consisting of four rowing oars and one steering oar not less than 8 feet in length shall be provided for liferafts for seven persons or more. For liferafts for six persons or less, a unit shall consist of two paddles not less than 5 feet in length.

(h) *Oil, storm.* One gallon of vegetable, fish, or animal oil shall be provided in a suitable metal container so constructed as to permit a controlled distribution of oil on the water, and so arranged that it can be attached to the sea anchor.

(i) *Painter.* Painters shall be of manila rope not less than 2¾ inches in circumference and of a length not less than three times the distance between the deck on which the liferafts are stowed and the light draft of the vessel.

(j) *Provisions.* Two pounds of hard bread or its approved equivalent shall be provided for each person the liferaft is certified to carry. The provisions shall be packaged in hermetically sealed cans of an approved type. The cans shall be stowed in compartments providing suitable protection.

(k) *Rowlocks.* A unit consisting of five rowlocks attached to the liferaft by separate chains and ready for immediate use, together with proper rowlock sockets so arranged as to provide four rowing positions and one steering position with the liferaft floating either side up. Rowlocks and rowlock sockets are not required on liferafts for six persons or less.

(l) *Sea anchor.* The sea anchor shall be constructed of good quality canvas or other satisfactory material, and shall not be less than 2 feet in diameter.

(m) *Signals, distress.* A unit consisting of equipment as specified in paragraphs (m)(1) to (3) of this section. The service use of this equipment shall be limited to 3 years from date of manufacture, and replacement shall be made no later than the first annual inspection of the vessel after the date of expiration.

(1) Twelve (12) approved hand red flare distress signals in a watertight container and two approved floating orange smoke distress signals, constructed in accordance with Subparts 160.021 and 160.022 of Part 160 of Sub-

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TABLE 192.20–15(s)

Length of life boat, feet		Standing lug salt											Mast [1]			Yard [1]		
Over	Not over	Area, square feet	Lull and head lengths		Leach length		Foot length		Clew to throat		Ounces per square yard	Commercial designation No.	Length		Diameter, ins.	Length		Diameter, ins.
			Ft.	*In.*	*Ft.*	*In.*	*Ft.*	*In.*	*Ft.*	*In.*			*Ft.*	*In.*		*Ft.*	*In.*	
	17	58	5	11	12	1	8	10	10	10	14.35	10	11	2	3	6	11	2
17	19	74	6	8	13	8	10	0	12	2	14.35	10	12	6	3	7	8	2
19	21	93	7	5	15	1	11	2	13	8	14.35	10	13	10	3 ½	8	5	2 ½
21	23	113	8	3	16	11	12	4	15	1	14.35	10	15	2	3 ½	9	3	2 ½
23	25	135	9	0	18	6	13	6	16	6	14.35	10	16	6	4	10	0	3
25	27	158	9	9	20	0	14	7	17	10	17.50	8	17	10	4	10	9	3
27	29	181	10	5	21	5	15	7	19	1	17.50	8	19	2	4 ½	11	5	3 ¼
29	31	203	11	0	22	8	16	6	20	3	20.74	6	20	6	4 ½	12	0	¼
31	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(3)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)

[1] Mast lengths measured from heel to center of upper halyard sheave. Mast diameters measured at thwart. Mast and yard shall be of clear-grained spruce, fir, or equivalent.

[2] Subject to special consideration.

chapter Q (Specifications) of this chapter; or,

(2) Twelve (12) approved hand red flare distress signals in a watertight container and 12 approved hand orange smoke distress signals, constructed in accordance with Subparts 160.021 and 160.037 of Part 160 of Subchapter Q (Specifications) of this chapter; or,

(3) Twelve (12) approved hand combination flare and smoke distress signals, constructed in accordance with Subpart 160.023 of Part 160 of Subchapter Q (Specifications) of this chapter.

(n) *Water.* (1) For each person the liferaft is certified to carry, there shall be provided 1 quart of drinking water consisting of three approved hermetically sealed containers per person, constructed and filled in accordance with Subpart 160.026 of Part 160 of Subchapter Q (Specifications) of this chapter. The service life of this equipment shall be limited to 5 years from date of packing, and replacement shall be made no later than the first annual stripping, cleaning, and overhaul of the liferaft after the date of expiration.

(2) The drinking water containers shall be stowed in compartments providing suitable protection.

(o) *Water light.* The water light must be—

(i) of an approved automatic electric type, constructed in accordance with Subpart 161.010 of this chapter, except as allowed under paragraph (o)(2) of this section; and

(ii) attached to the life raft by a 12-thread manila or equivalent synthetic lanyard, at least 5.5 meters (18 feet) in length.

(2) A water light constructed in accordance with former Subpart 160.012 or 161.001 of this chapter that was installed before January 1, 1972 may be retained in an existing installation as long as it is maintained in good condition.

(46 U.S.C. 369, 375, 390b, 416, and 481; 49 U.S.C. 1655; 49 CFR 1.46)

[CGFR 67-83, 33 FR 1135, Jan. 27, 1968, as amended by CGD 79-165a, 45 FR 64187, Sept. 29, 1980]

§ 192.20-30 Required equipment for lifefloats and buoyant apparatus.

(a) The lifefloats and buoyant apparatus for all vessels shall be equipped in accordance with Table 192.20-30(a). For a description of the items contained in this table, and the units comprising the items, see the applicable paragraphs of § 192.20-35. The letter identification prefixing the item in the table corresponds to the paragraph designation in § 192.20-35.

TABLE 192.20-30(a)

Letter identification	Item	Number required for each lifefloat and buoyant apparatus		
		Ocean and coastwise	Great Lakes	Lakes, bays, and sounds, and, rivers
a	Boathook [1]	1	1	1.
b	Lifeline	1	1	1.
c	Paddles [1]	4	4	4.
d	Painter	1	1	1.
e	Water light	1	1	None.

[1] Buoyant apparatus need not be equipped with boathook or paddles.

§ 192.20-35 Description of equipment for lifefloats and buoyant apparatus.

(a) *Boathook.* Boathooks shall be of the single hook ballpoint type. Boathook handles shall be of clear grained white ash, or equivalent, not less than 6 feet long and 1½ inches in diameter.

(b) *Lifeline.* The lifeline shall be properly secured around the sides and ends of the lifefloat or buoyant apparatus, festooned in bights not longer than 3 feet, with a seine float in each bight, which float may be omitted if the line is of an inherently buoyant material and absorbs little or no water. The lifeline shall be of a size and strength not less than ⅜-inch diameter manila.

(c) *Paddles.* Paddles shall not be less than 5 feet long.

(d) *Painter.* (1) The painter for buoyant apparatus shall be of manila rope not less than 2 inches in circumference and of a length not less than 6 feet plus the distance between the deck on which the buoyant apparatus is stowed and the light draft of the vessel.

(2) The painter for lifefloats shall be of manila rope not less than 2¾ inches in circumference and of a length not less than three times the distance between the deck on which the lifefloats are stowed and the light draft of the vessel.

(e) *Water light.* (1) the water light must be—

(i) of an approved automatic electric type, constructed in accordance with Subpart 161.010 of this chapter, except as allowed under paragraph (e)(2) of this section; and

(ii) attached to the life float or bouyant apparatus by a 12-thread manila or equivalent synthetic lanyard, at least 5.5 meters (18 feet) in length.

(2) A water light constructed in accordance with former Subpart 160.012 or 161.001 of this chapter that was installed before January 1, 1972 may be retained in an existing installation as long as it is maintained in good condition.

(46 U.S.C. 369, 375, 390b, 416, and 481; 49 U.S.C. 1655; 49 CFR 1.46)

[CGFR 67-83, 33 FR 1135, Jan. 27, 1968, as amended by CGD 79-165a, 45 FR 64188, Sept. 29, 1980]

§ 192.20-90 Vessels contracted for prior to March 1, 1968.

(a) Vessels contracted for prior to March 1, 1968, shall meet the following requirements:

(1) Except as specifically modified by this paragraph, the requirements of §§ 192.20-5 through 192.20-35 shall be complied with insofar as the number of items of equipment and the method of stowage of the equipment is concerned.

(2) Existing items of equipment previously approved, but not meeting the applicable specifications or requirements set forth in §§ 192.20-5 through 192.20-35 may be continued in service so long as they are maintained in a good condition to the satisfaction of the Officer in Charge, Marine Inspection. All new installations or replacements shall meet the applicable specifications or requirements in this part for new vessels.

Subpart 192.25—Davits for Lifeboats

§ 192.25-1 Application.

(a) The provisions of this subpart, with the exception of § 192.25-90, shall apply to all vessels contracted for on or after March 1, 1968.

(b) Vessels contracted for prior to March 1, 1968, shall meet the requirements of § 192.25-90.

§ 192.25-5 General.

(a) All gravity and mechanical type davits shall be of an approved type, constructed in accordance with Subpart 160.032 of Part 160 of Subchapter Q (Specifications) of this chapter.

(b) Davits for lifeboats weighing in excess of 5,000 pounds when fully equipped (but without persons) shall be of the gravity type.

(c) All davits shall be so arranged that the lifeboats do not require lifting prior to being swung out, except on small vessels where such requirement is unreasonable or impracticable in the opinion of the Officer in Charge, Marine Inspection.

(d) All davits and necessary gear shall be such as to meet the requirements for the installation test set forth in Subpart 192.35. The design, arrangements, and installation shall be such as to preclude undue delay in getting lifeboats into the water, and shall be of such strength that the lifeboats can be turned out manned by a launching crew and then safely lowered with the full complement of persons and equipment, with the ship listed to 15 degrees either way and with a 10-degree trim.

(e) Radial davits, where permitted, shall comply with the following requirements:

(1) They shall be fitted with means to prevent them from being jerked from their sockets.

(2) They shall maintain a factor of safety of six based on the weight of the fully equipped and loaded lifeboat, except that the weight of the fully equipped lifeboat alone may be used where the lifeboat is launched before being loaded with people.

(3) They shall be fitted with hand gear of sufficient power to insure that

the boat can be turned out against a maximum list of 15 degrees.

(4) They shall be shop tested and show no permanent set or undue stress when subjected to a load equal to 2.2 times the working load. In addition, they shall be shop tested with a load equal to 1.1 times the weight of the fully equipped lifeboat with the davit set up to simulate a 15-degree list inboard, and it shall be determined that the hand gear can adequately handle the load in this condition.

(f) Davits shall be so disposed on one or more decks as to permit the lifeboats placed under them to be safely lowered without interference from the operation of any other davits.

(g) On a vessel on which inflatable liferafts have been substituted for lifeboats, a launching device for each lifeboat to be used for rescue purposes shall be installed. Radial type davits or other means may be used if acceptable to the Officer in Charge, Marine Inspection.

§ 192.25-10 Approved davits and lifelines for davit spans.

(a) All vessels shall be fitted with a set of approved gravity or mechanical davits for each lifeboat carried, except that on small vessels radial type davits or other means may be used if specifically approved by the Officer in Charge, Marine Inspection.

(b) For all vessels in ocean, coastwise, or Great Lakes service, all davit installations shall have two lifelines fitted to a davit span. The lifelines shall be of such length as to reach the water at the lightest seagoing draft with the vessel listed 15 degrees either way.

§ 192.25-90 Vessels contracted for prior to March 1, 1968.

(a) Vessels contracted for prior to March 1, 1968, shall meet the following requirements:

(1) Except as specifically modified by this paragraph, the requirements of §§ 192.25-5 and 192.25-10 shall be complied with insofar as the number and general type of equipment is concerned.

(2) Existing items of equipment previously approved, but not meeting the applicable specifications or requirements set forth in §§ 192.25-5 and 192.25-10 may be continued in service so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs, alterations, and replacements may be made to the same standards as the original installation. However, all new installations or major replacements shall meet the applicable specifications or requirements for new vessels.

(3) All davits for lifeboats weighing in excess of 5,000 pounds when fully equipped (but without persons) shall be of the gravity type.

Subpart 192.30—Lifeboat Winches

§ 192.30-1 Application.

(a) The provisions of this subpart, with the exception of § 192.30-90, shall apply to all vessels contracted for on or after March 1, 1968.

(b) Vessels contracted for prior to March 1, 1968, shall meet the requirements of § 192.30-90.

§ 192.30-5 General.

(a) All lifeboat winches shall be of an approved type, constructed in accordance with Subpart 160.015 of Part 160 of Subchapter Q (Specifications) of this chapter.

(b) Where ice conditions are likely to be encountered, suitable covers shall be provided for all lifeboat winches, so fitted over exposed mechanism, that ice formation may be readily broken adrift when necessary to operate the winch.

(c) Where lifeboat winches are used, wire falls shall be employed.

§ 192.30-10 Number and type required.

(a) Lifeboat winches shall be fitted for each set of davits on all vessels in ocean or coastwise service where the height of the deck on which lifeboats are carried exceeds 20 feet from the lightest seagoing draft.

(b) Lifeboat winches shall be used in all cases where gravity type davits are employed.

(c) Lifeboat winches for use with gravity davits shall have grooved drums of such size that there will be only one layer of wire on the drums.

Lifeboat winches for use with mechanical davits need not have grooved drums, and may be designed to take more than one layer of wire.

§ 192.30-15 Installation.

(a) Lifeboat winch controls shall be so located that the operator can observe the movement of the lifeboat during the lowering operation. In addition, any electrical controls provided shall meet the requirements of Subpart 111.65 of Part 111 of Subchapter J (Electrical Engineering) of this chapter.

(b) The lead of the falls to the lifeboat winches and length and size of wire shall be in accordance with Subpart 192.33.

§ 192.30-90 Vessels contracted for prior to March 1, 1968.

(a) Vessels contracted for prior to March 1, 1968, shall meet the following requirements:

(1) Except as specifically modified by this paragraph, the requirements of §§ 192.30-5 through 192.30-15 shall be complied with insofar as the number and general type of equipment is concerned.

(2) Existing items of equipment previously approved, but not meeting the applicable specifications or requirements set forth in §§ 192.30-5 through 192.30-15 may be continued in service so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. However, all new installations or major replacements shall meet the applicable specifications or requirements for new vessels.

Subpart 192.33—Blocks and Falls for Lifeboats

§ 192.33-1 Application.

(a) The provisions of this subpart, with the exception of § 192.33-90, shall supply to all vessels contracted for on or after March 1, 1968.

(b) Vessels contracted for prior to March 1, 1968, shall meet the requirements of § 192.33-90.

§ 192.33-5 General.

(a) All blocks, falls, fairleads, padeyes, shackles, links, fastenings, etc., used in connection with lifeboat gear, shall be designed with a minimum factor of safety of six, based on the maximum working load.

(b) Falls shall be of such length that the lifeboat may be lowered to the water with the vessel at its lightest draft, listed 15 degrees either way.

(c) Falls, where exposed and subject to damage or fouling, shall be suitably protected.

(d) Such blocks or other fittings shall be fitted as are necessary to permit the falls to lead fair in all positions of the davits.

(e) Means for lubrication shall be provided for all moving parts of blocks, sheaves, fairleads, etc.

§ 192.33-10 Installations where lifeboat winches are used.

(a) All falls shall be of wire rope.

(b) Wire rope falls of 6 x 19 regular lay filler wire constructed, prelubricated at the factory with suitable neutral wire rope lubricant, shall be accepted as standard. Any other wire rope superior or equal to this minimum standard may be used if specifically approved.

(c) Not more than two-part falls may be used, except in special cases where three-part falls may be permitted by the Commandant.

(d) The lead sheaves to the drums shall be located so as to provide fleet angles of not more than 8 degrees for grooved drums and not more than 4 degrees for nongrooved drums. By fleet angle is meant the angle included between an imaginary line from the lead sheave perpendicular to the axis of the drum and the line formed by the wire rope when led from the lead sheave to either extremity of the drum.

(e) Sheaves shall have a diameter at the base of the groove at least equal to 12 times the diameter of the wire rope.

§ 192.33-15 Installations where lifeboat winches are not used.

(a) All falls shall be of manila rope or equivalent. Wire rope shall not be used.

(b) All vessels shall be provided with covered tubs, boxes, or reels for the stowage and protection of the falls, and cruciform bitts shall be provided for properly lowering the lifeboats.

(c) There shall be ample clearance between the cheeks of all blocks. The width between the cheeks shall be ½-inch greater than the diameter of new rope if 3¾ inches circumference or greater is used. Blocks for smaller rope shall be designed with proportional clearances.

§ 192.33-90 Vessels contracted for prior to March 1, 1968.

(a) Vessels contracted for prior to March 1, 1968, shall meet the following requirements:

(1) Except as specifically modified by this paragraph, the requirements of §§ 192.33-5 through 192.33-15 as applicable, shall be complied with insofar as the general type of equipment is concerned.

(2) Existing equipment previously approved but not meeting the detailed requirements may be continued in service so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs, alterations, and replacements may be made to the same standards as the original installation. However, all new installations or major replacements shall meet the applicable requirements for new vessels.

Subpart 192.35—Installation of Lifeboats, Davits, and Winches

§ 192.35-1 Application.

(a) The provisions of this subpart apply to all installations, except as set forth in § 196.15-45(c) of this subchapter.

§ 192.35-5 Tests and examinations.

(a) Upon completion of installation of lifeboats, davits, or winches, tests, and examinations as required by this section shall be made to the satisfaction of the inspector before the vessel may be navigated.

(b) The lifeboat shall be swung out from the chocks and lowered to the embarkation deck. At this point the lifeboat shall be loaded with deadweight equivalent to the number of persons allowed (165 pounds per person) together including the weight of the lifeboat. No person shall be permitted in the lifeboat while it is being loaded or lowered. The lifeboat shall then be lowered to the water and disengaged from the falls.

(1) None of the equipment or parts thereof nor deck connections shall show signs of permanent set or excessive deflection.

(2) Mechanical and radial type davits shall be capable of being swung out without lifting the lifeboat, except on small vessels where such requirements are unreasonable or impracticable in the opinion of the Officer in Charge, Marine Inspection.

(3) The falls shall be of sufficient length to lower the lifeboat as required by § 192.33-5(b).

(4) Where lifeboat winches are used, the following additional determinations shall be made:

(i) During lowering, the lifeboat shall be stopped at intervals of approximately 6 feet by the action of the counterweight alone. The counterweight shall be capable of stopping and holding the lifeboat. The brake action shall be smooth, but positive.

(ii) Brakes exposed to the weather shall be tested under the load conditions with the braking surfaces both wet and dry.

(iii) The governor brake shall be capable of controlling the speed of lowering the fully equipped lifeboat with its complement of persons on board to not more than 120 feet per minute. In addition, the speed of lowering of the fully equipped lifeboat without its complement of persons shall not be less than 40 feet per minute.

Subpart 192.40—Life Preservers

§ 192.40-1 Application.

(a) The provisions of this subpart, with the exception of § 192.40-90, apply to all vessels contracted for on and after March 1, 1968.

(b) Vessels contracted for prior to March 1, 1968, shall meet the requirements of § 192.40-90.

[CGFR 67-33, 33 FR 1135, Jan. 27, 1968, as amended by CGFR 68-65, 33 FR 19993, Dec. 28, 1968]

§ 192.40-5 General.

(a) All life preservers shall be of an approved type, constructed in accordance with Subparts 160.002, 160.005, or 160.055 of Subchapter Q (Specifications) of this chapter.

(b) All life preservers on vessels on an international voyage shall be provided with a whistle of the ball type, of corrosion-resistant construction, with a 3-foot lanyard attached, and in good working order. It shall be attached to the life preserver by the lanyard alone without hooks, snaps, clips, etc., and shall extend not less than 15 inches from the life preserver body. While stowed on the life preserver, the whistle lanyard shall be coiled and stopped off.

§ 192.40-10 Number required.

(a) All vessels, including non-self-propelled vessels of less than 300 gross tons, shall be provided with a life preserver for each person on board. An additional number of life preservers shall be provided for the personnel on watch in the engineroom and pilothouse, and at the bow lookout.

(b) When children are carried, a suitable number of children's life preservers shall be provided.

§ 192.40-15 Distribution and stowage.

(a) *Distribution.* (1) Life preservers shall be distributed throughout the quarters for the crew and scientific personnel and other places readily accessible for each person on board. The stowage of the additional number of life preservers required by § 192.40-10 shall be such that they are readily accessible to personnel on watch in the engineroom and pilothouse, and at the bow lookout.

(2) Life preservers stowed overhead shall be so supported that they can be quickly released and distributed. Where life preservers are stowed at a height greater than 7 feet from the deck below, efficient means shall be provided for their immediate release and distribution to be operated by persons standing on the deck.

(3) For vessels on an international voyage and carrying additional life preservers required by § 192.40-10(b), such life preservers shall be stowed in boxes near the lifeboats.

§ 192.40-20 Personal flotation device lights.

(a) Each life preserver carried on a vessel engaged in ocean, coastwise, or Great Lakes service after June 30, 1980, must have a personal flotation device light that is approved under Subpart 161.012 of this chapter.

(b) Each light required by this section must be securely attached to the front shoulder area of a life preserver.

(46 U.S.C. 375, 390b, 391a, 416, 481, 526p, 1454, and 1488; 49 U.S.C. 1655(b); 50 U.S.C. 198; and 49 CFR 1.46)

[CGD 76-028, 44 FR 38789, July 2, 1979]

§ 192.40-25 Retroreflective material.

(a) Each life preserver carried on a vessel after June 30, 1980, must have at least 200 sq. cm (31 sq. in.) of retroreflective material attached on its front side, at least 200 sq. cm on its back side, and at least 200 sq. cm of material on each of its reversible sides.

(b) Retroreflective material required by this section must be Type I material that is approved under Subpart 164.018 of this chapter.

(c) The retroreflective material attached on each side of a life preserver must be divided equally between the upper quadrants of the side, and the material in each quadrant must be attached as closely as possible to the shoulder area of the life preserver.

(46 U.S.C. 375, 390b, 391a, 416, 481, 526p, 1454, and 1488; 49 U.S.C. 1655(b); 50 U.S.C. 198; and 49 CFR 1.46)

[CGD 76-028, 44 FR 38789, July 2, 1979]

§ 192.40-90 Vessels contracted for prior to March 1, 1968.

(a) Vessels contracted for prior to March 1, 1968, shall meet the following requirements:

(1) Except as specifically modified by this paragraph, the requirements of §§ 192.40-5 through 192.40-15 shall be complied with insofar as the number of items of equipment and the method of stowage is concerned.

(2) Existing items of equipment previously approved, but not meeting the applicable specifications or requirements set forth in §§ 192.40-5 through 192.40-15 may be continued in service so long as they are serviceable and in good condition to the satisfaction of the Officer in Charge, Marine Inspection, except that:

(i) Kapok and fibrous glass life preservers which do not have plastic-covered pad inserts, as required by Subparts 160.002 and 160.005 of Part 160 of Subchapter Q (Specifications) of this chapter shall not be permitted.

(3) All new installations or replacements shall meet the applicable specifications or requirements for new equipment, except that:

(i) Cork and balsa wood life preservers, constructed in accordance with the applicable provisions of Subpart 160.003 or 160.004 of Part 160 and manufactured as approved life preservers prior to July 1, 1965, may be accepted as new or replacement equipment required by this subchapter if such life preservers are serviceable and in good condition to the satisfaction of the Officer in Charge, Marine Inspection, except for vessels on an international voyage.

Subpart 192.41—Exposure Suits

AUTHORITY: 46 U.S.C. 375, 391a, 416, and 481 49 U.S.C. 1655(b); 49 CFR 1.46.

SOURCE: GCD 76-033a, 45 FR 24487, Apr. 10, 1980, unless otherwise noted.

§ 192.41-1 Applicability.

This subpart applies to each vessel that operates on the Great Lakes.

§ 192.41-5 Number and type required.

(a) Each vessel must have an exposure suit for each person on board.

(b) In addition to the exposure suits required by paragraph (a) of this section, the engine room, pilothouse, bow lookout, and each work station must have enough exposure suits to equal the number of persons normally on watch in or assigned to, the station at one time. However, an exposure suit need not be provided at a watch or work station for a person whose cabin, stateroom, or berthing area (and the exposure suits stowed in that location) is readily accessible to the work station.

(c) Except as provided in paragraph (d) of this section, each exposure suit on a vessel must be of a type approved under Subpart 160.071 of this chapter.

(d) An exposure suit in use on a vessel before November 1, 1980, may remain in use on the vessel in place of an exposure suit approved under Subpart 160.071 of this chapter if—

(1) It is similar or identical to an approved suit, and

(2) It is in serviceable condition.

[CGD 76-033a, 45 FR 24487, Apr. 10, 1980; 45 FR 29588, May 5, 1980]

§ 192.41-10 Stowage containers.

(a) No stowage container for exposure suits may be capable of being locked.

(b) Exposure suits stowed overhead must be supported in a manner that allows quick release for distribution.

(c) If explosure suits are stowed more than 2.1 m (7 ft.) above the deck a means for quick release must be provided and must be capable of operation from the deck.

Subpart 192.43—Ring Life Buoys and Water Lights

§ 192.43-1 Application.

(a) The provisions of this subpart, with the exception of § 192.43-90, shall apply to all vessels contracted for on or after March 1, 1968.

(b) Vessels contracted for prior to March 1, 1968, shall meet the requirements of § 192.43-90.

§ 192.43-5 General.

(a) All ring life buoys shall be of an approved type, constructed in accordance with Subpart 160.12 of Part 160 or Subpart 161.001 of Part 161 of Subchapter Q (Specifications) of this chapter.

(b) Each water light must be of an approved automatic electric type, constructed in accordance with Subpart 161.010 of this chapter; except a water light constructed in accordance with former Subpart 160.012 or 161.001 of this chapter that was installed before January 1, 1972 may be retained in an existing installation as long as it is maintained in good condition.

(c) A self-activating smoke signal—

(1) Must be approved in accordance with Subpart 160.057 of this chapter; and

(2) May not be more than 3 years older than the stamped date of manufacture.

(46 U.S.C. 369, 375, 390b, 416, and 481; 49 U.S.C. 1655; 49 CFR 1.46)

[CGFR 67-83, 33 FR 1135, Jan. 27, 1968, as amended by CGFR 72-45, 37 FR 5032, Mar. 9, 1972; CGD 79-165a, 45 FR 64188, Sept. 29, 1980]

§ 192.43-10 Number required.

(a) The minimum number of approved 30-inch ring life buoys and the minimum number of which shall have water lights attached, shall be in accordance with Table 192.43-10(a): *Provided,* That unmanned barges are exempt from this section.

TABLE 192.43-10(a)

Length of vessel in feet	Ocean[1]		All services other than ocean[1]	
	Minimum number of ring life buoys	Minimum number of ring life buoys in column 2 which shall have water lights attached	Minimum number of ring life buoys	Minimum number of ring life buoys in column 4 which shall have water lights attached
Column 1	Column 2	Column 3	Column 4	Column 5
Under 100	8	6	2	0
100 and under 200	8	6	4	2
200 and under 300	8	6	6	2
300 and under 400	12	6	12	4
400 and under 600	18	9	18	9
600 and under 800	24	12	24	12
800 and over	30	15	30	15

[1] Manned barges shall be equipped with 1 ring life buoy at each end of the vessel with water light attached and 15 fathoms of line.

(b) One of the ring life buoys on each side of the vessel shall have secured to it a line at least 15 fathoms in length. On vessels on an international voyage, the line shall be of a buoyant type.

(c) On vessels on an international voyage, at least two of the ring life buoys with water lights attached as required by Table 192.43-10(a) shall also be provided with an approved self-activated smoke signal and shall be capable of quick release from the bridge.

(d) On vessels on an international voyage, the ring life buoys required by this section shall be orange in color.

§ 192.43-15 Distribution and securing.

(a) All ring life buoys shall be placed so as to be readily accessible to the persons on board, and their positions plainly indicated so as to be known to the persons concerned.

(b) The ring life buoys shall always be capable of being cast loose, and shall not be permanently secured in any way.

§ 192.43-90 Vessels contracted for prior to March 1, 1968.

(a) Vessels contracted for prior to March 1, 1968, shall meet the following requirements:

(1) Except as specifically modified by this paragraph, the requirements of §§ 192.43-5 through 192.43-15 shall be complied with insofar as the number of items of equipment and the method of stowage is concerned.

(2) Existing items of equipment previously approved, but not meeting the applicable specifications or requirements set forth in §§ 192.43-5 through 192.43-15 may be continued in service so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. All

new installations or replacements shall meet the applicable specifications or requirements in this subpart for new vessels.

Subpart 192.45—Line-Throwing Appliances

§ 192.45-1 Application.

(a) The provisions of this subpart with the exception of § 192.45-90, shall apply to all mechanically propelled vessels in ocean and coastwise service, contracted for on or after March 1, 1968.

(b) Vessels contracted for prior to March 1, 1968, shall meet the requirements of § 192.45-90.

§ 192.45-5 General.

(a) Line-throwing appliances of the impulse-projected rocket type, and the equipment auxiliary thereto, shall be of an approved type, constructed in accordance with Subpart 160.040 of Part 160 of Subchapter Q (Specifications) of this chapter. The service use of rockets shall be limited to a period of 4 years from date of manufacture, and replacement of outdated items shall be made at the first port of arrival in the United States where such rockets are available, except that replacement shall be made in all cases within 12 months after the date of expiration.

(b) Line-throwing appliances of the shoulder-gun type, and the equipment auxiliary thereto, shall be of an approved type, constructed in accordance with Subpart 160.031 of Part 160 of Subchapter Q (Specifications) of this chapter.

§ 192.45-10 Type required.

(a) All vessels shall be fitted with an approved line-throwing appliance of the impulse-projected rocket type. However, vessels of less than 500 gross tons may substitute a line-throwing appliance of the shoulder-gun type.

§ 192.45-15 Equipment for line-throwing appliances.

(a) The following equipment must be carried for each impulse-projected, rocket-type-line-throwing appliance required by this subpart. The equipment must be stowed with the appliance in a case or box, except for the service lines and the auxiliary line, which may be stowed in an accessible location nearby:

(1) Four rockets, two of which shall be of the buoyant type.

(2) Four service lines that—

(i) Are fabricated of the material specified in the approval of the appliance carried;

(ii) Have a length not less than that specified in the approval of the appliance carried;

(iii) Have a diameter from $\frac{7}{32}$ to $\frac{9}{32}$ inch;

(iv) Have a breaking strength of at least 500 pounds; and

(v) Are to be kept in a faking box or reel.

(3) Four prime ejector cartridges.

(4) One cleaning brush, one can of oil, and 12 wiping patches.

(5) One set of instructions from the manufacturer.

(6) One auxiliary line that is fabricated of—

(i) Manila and is at least 1,500 feet long and 3 inches or more in circumference; or

(ii) A synthetic material and is at least 1,500 feet long and is certified by the manufacturer to have a breaking strength of at least 9,000 pounds and inhibited to resist the effects of ultraviolet rays.

(b) The following equipment must be carried for each shoulder gun type, line-throwing appliance required by this subpart. The equipment must be stowed with the appliance in a box or case, except for the service lines and the auxiliary line which may be stowed in an accessible location nearby:

(1) Ten service projectiles.

(2) Twenty-five cartridges.

(3) Four service lines to be kept in faking boxes or on reels and to be fabricated of—

(i) Flax or cotton, not less than 400 feet long, $\frac{3}{8}$ inch or more in circumference, and having a breaking strength of not less than 250 pounds; or

(ii) Very flexible woven or braided synthetic material, not less than 600 feet long $\frac{1}{16}$ inch or more in diameter, having a breaking strength of not less than 140 pounds and inhibited to resist the effects of ultraviolet rays.

(4) One cleaning rod with brush, one can of oil, and 12 wiping patches.

(5) One set of instructions from the manufacturer.

(6) One auxiliary line that is made of either—

(i) Manila and is at least 500 feet long and 3 inches or more in circumference; or

(ii) A synthetic material and is at least 500 feet long, and is certified by the manufacturer to have a minimum breaking strength of 9,000 pounds and inhibited to resist the effects of ultraviolet rays.

[CGD 72-135R, 37 FR 16179, Aug. 11, 1972]

§ 192.45-20 Accessibility.

(a) The line-throwing appliance and its equipment shall be kept easily and readily accessible and ready for use. No part of this equipment shall be used for any other purpose.

§ 192.45-25 Service recommendations.

(a) In firing the line-throwing appliances, the operating instructions and safety precautions furnished by the manufacturer should be followed.

§ 192.45-90 Vessels contracted for prior to March 1, 1968.

(a) Vessels in ocean or coastwise service contracted for prior to March 1, 1968, shall meet the requirements set forth in §§ 192.45-5 through 192.45-25. However, if a Lyle gun type line-throwing appliance is already in service on such vessel, it may be continued in use so long as it is in good and serviceable condition, but may not be replaced by a similar installation. Where Lyle guns are used, the following requirements shall be met:

(1) The equipment enumerated in this subparagraph shall be carried for Lyle gun type line-throwing appliances. The equipment and the gun shall be stowed together in a suitable case or box. If the case or box does not meet the requirements of Subpart 160.038 of Part 160 of Subchapter Q (Specifications) of this chapter for portable magazine chest, the powder and primers shall be separately stowed in a chest meeting such requirement.

(i) Six service projectiles.

(ii) Eighteen bags (2½ ounces each) of black powder marked "One-half normal charge of Lyle gun, 2½ ounces black powder" in a nonferrous metal screw-top container.

(iii) One approved firing attachment with accessories consisting of lanyard, wrench, washer to fit between barrel and shoulder of firing attachment, blank plug for screwing into gun when firing attachment is not in place, cartridge extractor, and 25 primers in a watertight metal box.

(iv) Twenty-five paper wads.

(v) Four service lines, each 1,700 feet in length, of 7/32-inch to 9/32-inch diameter flax or manila, and having a breaking strength of at least 500 pounds, to be kept in faking boxes or on reels.

(vi) One ram rod, one wire brush, one can of light petrolatum, and twelve wiping patches.

(vii) One tapered wooden plug for muzzle of gun when not in use.

(viii) One set of instructions furnished by the manufacturer of the gun.

(ix) One auxiliary line, 1,500 feet of 3-inch circumference manila.

(2) Accessibility. Same as § 192.45-20.

Subpart 192.50—Embarkation Aids

§ 192.50-1 Application.

(a) The provisions of this subpart, with the exception of § 192.50-90, shall apply to all vessels, contracted for on or after March 1, 1968.

(b) Vessels contracted for prior to March 1, 1968, shall meet the requirements of § 192.50-90.

§ 192.50-5 Ladders.

(a) *General.* (1) All ladders required by this section shall be of an approved type constructed in accordance with Subpart 160.017 of Part 160 of Subchapter Q (Specifications) of this chapter.

(b) *Vessels in ocean, coastwise, or Great Lakes service.* (1) All vessels in ocean, coastwise, or Great Lakes service shall have an approved Type II (chain suspension) ladder for each set of lifeboat davits, but existing ladders previously approved by the Coast Guard may be continued in service so long as they are maintained in good condition. Such ladders shall be kept ready and convenient for use on the lifeboat deck, and shall reach from such deck to the vessel's light waterline, no heel assumed.

(2) All ocean and coastwise vessels which normally employ a pilot shall have a ladder for the use of the pilot in addition to the ladders required by paragraph (b)(1) of this section. Suitable spreaders, a man rope, and a safety line shall be kept readily available for use in conjunction with the pilot ladder whenever circumstances may so require. When used, the ladder shall be secured in a position so that each step rests firmly against the ship's side, and so the pilot can gain safe and convenient access to the ship after climbing not more than 30 feet. Whenever the distance from sea level is more than 30 feet, access from the pilot ladder to the ship shall be by means of an accommodation ladder or other equally safe and convenient means. Arrangements shall be such that the rigging of the ladder and the embarkation and debarkation of the pilot is supervised by a responsible officer of the ship, and handholds are provided to assist the pilot to pass safely and conveniently from the head of the ladder into the ship and onto the ship's deck. At night a light shining over the side shall be available for use, and the deck at the position where the pilot boards the ship shall be adequately lighted.

§ 192.50-7 Embarkation aids into inflatable liferafts.

(a) Where inflatable liferafts are substituted for lifeboats, unless freeboard at embarkation point is such that embarkation devices are not necessary, suitable arrangements shall be made for embarkation which shall include sufficient ladders or other suitable devices to facilitate embarkation into the inflatable liferafts when waterborne.

§ 192.50-10 Illumination of lifeboat launching operations.

(a) Provisions shall be made on all vessels on an international voyage and all other vessels where the lifeboat deck is more than 30 feet above the light waterline, for readily and continuously available illumination from the vessel of lifeboats when alongside and in process of or immediately after being launched. Details of the illuminating system shall be in accordance with Subchapter J (Electrical Engineering) of this chapter.

§ 192.50-15 Illumination for liferaft stowage areas.

(a) For all vessels on an international voyage, suitable illumination shall be provided for the liferaft stowage areas.

§ 192.50-90 Vessels contracted for prior to March 1, 1968.

(a) Vessels contracted for prior to March 1, 1968, shall meet the following requirements:

(1) Except as specifically modified by this paragraph, the requirements of §§ 192.50-5 through 192.50-15 shall be complied with insofar as the number of items of equipment and the method of stowage is concerned.

(2) Existing items of equipment previously approved, but not meeting the applicable specifications or requirements of §§ 192.50-5 through 192.50-15 may be continued in service so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. All new installations or replacements shall meet the applicable specifications or requirements for new vessels.

(3) The illumination for lifeboat launching operations need not meet the detailed requirements of Subchapter J (Electrical Engineering) of this chapter.

Subpart 192.55—Portable Radio Apparatus

§ 192.55-1 Required on international voyage.

(a) Vessels on an international voyage shall be provided with a portable radio apparatus complying with the requirements of the Federal Communications Commission unless at least one lifeboat on each side of the vessel is fitted with a fixed radio installation. Such portable radio shall be kept in the radioroom, chartroom, or other suitable location ready to be moved to one or other of the lifeboats in the event of an emergency.

Subpart 192.60—Ship's Distress Signals

§ 192.60-1 Application.

(a) The provisions of this subpart shall apply to all manned vessels of 300 gross tons and over as specifically noted.

§ 192.60-5 Vessels in ocean or coastwise service.

(a) All vessels in ocean and coastwise service shall carry within the pilothouse or on the navigator's bridge 12 approved hand-held rocket-propelled parachute red flare distress signals, contained in a portable watertight container, constructed in accordance with Subpart 160.036 of Part 160 of Subchapter Q (Specifications) of this chapter.

(b) The service use of the distress signals shall be limited to a period of 3 years from date of manufacture, and replacement of outdated items shall be made at the first port of arrival in the United States where such distress signals are available, except that replacement shall be made in all cases within 12 months after the date of expiration.

§ 192.60-10 Vessels in Great Lakes service.

(a) All vessels in Great Lakes service shall carry within the pilothouse or on the navigator's bridge, 12 approved hand-held red flare distress signals, contained in a portable watertight container, constructed in accordance with Subpart 160.021 or Subpart 160.023 of Part 160 of Subchapter Q (Specifications) of this chapter.

(b) The service use of distress signals shall be limited to a period of 3 years from date of manufacture, and replacement of outdated items shall be made at the first port of arrival in the United States where such distress signals are available, except that replacement shall be made in all cases within 12 months after the date of expiration.

Subpart 192.65—Emergency Position Indicating Radiobeacon (EPIRB)

§ 192.65-1 Emergency position indicating radiobeacon (EPIRB).

(a) Each vessel in ocean and coastwise service must have an approved Class A emergency position indicating radiobeacon (EPIRB) that is—

(1) Operative;

(2) Stowed where it is readily accessible for testing and use; and

(3) Stowed in a manner so that it will float free if the vessel sinks.

(b) Compliance with this section is not required for a coastwise vessel—

(1) That carries a VHF radiotelephone that complies with the FCC requirements; and

(2) Whose Certificate of Inspection is endorsed for a route which does not extend more than 20 miles from a harbor of safe refuge.

(49 CFR 1.4(b)(1)(ii) and 1.46(b))

[CGD 73-24R, 39 FR 10140, Mar. 18, 1974]

PART 193—FIRE PROTECTION EQUIPMENT

Subpart 193.01—Application

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193.01-5 Equipment installed but not required.

Subpart 193.05—Fire Detecting and Extinguishing Equipment, Where Required

193.05-1 Fire detecting, manual alarm, and supervised patrol systems.
193.05-5 Fire main system.
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Subpart 193.10—Fire Main System, Details

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193.15-5 Quantity, pipe sizes, and discharge rates.
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193.15-25 Discharge outlets.
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Subpart 193.50—Hand Portable Fire Extinguishers and Semiportable Fire Extinguishing Systems, Arrangements and Details

193.50-1 Application.
193.50-5 Classification.
193.50-10 Location.
193.50-15 Spare charges.
193.50-20 Semiportable fire extinguishers.
193.50-90 Vessels contracted for prior to March 1, 1968.

Subpart 193.60—Fire Axes

193.60-1 Application.
193.60-5 Number required.
193.60-10 Location.

AUTHORITY: R.S. 4405, as amended, 4462, as amended, sec. 5, 79 Stat. 424; 46 U.S.C. 375, 416, 445. Interpret or apply R.S. 4417, as amended, 4418, as amended, 4453, as amended, 4488, as amended, sec. 10, 35 Stat. 428, as amended, 41 Stat. 305, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 17, 54 Stat. 166, as amended, sec. 6(b)(1), 80 Stat. 938; 46 U.S.C. 391, 392, 435, 481, 395, 363, 367, 526p, 49 U.S.C. 1655(b), E.O. 11239; 8 CFR, 1964-1965 Comp.; 49 CFR 1.4(a)(2).

SOURCE: CGFR 67-83, 33 FR 1145, Jan. 27, 1968, unless otherwise noted.

Subpart 193.01—Application

§ 193.01-1 General.

(a) The provisions of this part shall apply to all vessels other than non-self-propelled vessels of less than 300 gross tons.

(b) Non-self-propelled vessels of less than 300 gross tons shall not be subject to the provisions of this part, except as provided otherwise by §§ 193.01-5 and 193.50-1.

§ 193.01-5 Equipment installed but not required.

(a) On all vessels, including non-self-propelled vessels of less than 300 gross tons, where fire detecting or extinguishing systems or equipment are not required, but are installed, the system or equipment and its installation shall meet the requirements of this part.

Subpart 193.05—Fire Detecting and Extinguishing Equipment, Where Required

§ 193.05-1 Fire detecting, manual alarm, and supervised patrol systems.

(a) Fire detecting, manual alarm, and supervised patrol systems are not required, but if installed, the systems shall meet the applicable requirements of Part 76 of Subchapter H (Passenger Vessels) of this chapter.

§ 193.05-5 Fire main system.

(a) Fire pumps, hydrants, hose, and nozzles shall be installed on all manned vessels.

(b) Except as provided for in § 193.10-10(e), the fire main must be a pressurized or a remotely controlled system.

(c) The arrangements and details of the fire main system shall be as set forth in Subpart 193.10.

[CGFR 67-83, 33 FR 1145, Jan. 27, 1968, as amended by CGD 75-031, 40 FR 48349, Oct. 15, 1975]

§ 193.05-10 Fixed fire extinguishing systems.

(a) Approved fire extinguishing systems shall be installed in those locations delineated in this section.

(b) A fixed carbon dioxide or other approved system shall be installed in all lamp and paint lockers, oil rooms, and similar spaces.

(c) Fire extinguishing systems shall be provided for internal combustion engine installations in accordance with the following:

(1) Enclosed spaces containing gasoline engines shall have fixed carbon dioxide systems.

(2) If a fire extinguishing system is installed to protect an internal combustion or gas turbine installation, the system shall be of the carbon dioxide type.

(3) On vessels of 1,000 gross tons and over, a fixed carbon dioxide system shall be installed in all spaces containing internal combustion or gas turbine

main propulsion machinery, auxiliaries with an aggregate power of 1,000 b. hp. or greater, or their fuel oil units, including purifiers, valves, and manifolds.

(d) A fixed carbon dioxide system shall be installed in all chemical storerooms.

(e) On vessels of 1,000 gross tons and over, a fixed carbon dioxide, or foam system shall be installed in all spaces containing oil fired boilers, either main or auxiliary, or their fuel oil units, valves, or manifolds in the line between the settling tanks and the boilers. The arrangement and details of the foam system shall be as set forth in Part 95 of Subchapter I (Cargo and Miscellaneous Vessels) of this chapter.

(f) Where an enclosed ventilating system is installed for electric propulsion motors or generators, a fixed carbon dioxide extinguishing system shall be installed in such system.

(g) The arrangements and details of the fixed carbon dioxide extinguishing systems shall be as set forth in Subpart 193.15.

(h) Additional specific requirements for fire extinguishing systems for spaces containing explosives and other dangerous articles or substances are in Part 194 of this subchapter.

§ 193.05-15 Hand portable fire extinguishers and semiportable fire extinguishing systems.

(a) Approved hand portable fire extinguishers and semiportable fire extinguishing systems shall be installed on all manned vessels as set forth in Subpart 193.50.

§ 193.05-20 Sand.

(a) There shall be in each space containing oil fired boilers a metal receptacle containing not less than 10 cubic feet of sand, sawdust impregnated with soda, or other approved dry materials together with a scoop or shaker for distributing the same.

(b) In lieu of the requirements in *paragraph (a) of this section*, one *B-II* fire extinguisher may be substituted.

Subpart 193.10—Fire Main System, Details

§ 193.10-1 Application.

(a) The provisions of this subpart, with the exception of § 193.10-90, shall apply to all vessels contracted for on or after March 1, 1968.

(b) Vessels contracted for prior to March 1, 1968, shall meet the requirements of § 193.10-90.

§ 193.10-5 Fire pumps.

(a) Vessels shall be equipped with independently driven fire pumps in accordance with Table 193.10-5(a).

TABLE 193.10-5(a)

Gross tons		Minimum number of pumps	Hose and hydrant size, inches	Nozzle orifice size, inches	Length of hose, feet
Over	Not over				
....	100	[1] 1	[1] 1½	[1] ½	50
100	1,000	1	1½	⅝	50
1,000	1,500	2	1½	⅝	50
1,500	....	2	[2] 2½	[2] ⅞	[2] 50

[1] On vessels of 65 feet in length or less, ¾-inch hose of good commercial grade together with a commercial garden hose nozzle may be used. The pump may be hand operated and the length of hose shall be sufficient to assure coverage of all parts of the vessel.

[2] 75 feet of 1½-inch hose and ⅝-inch nozzle may be used where specified by § 193.10-10(b) for interior locations and 50 feet 1½-inch hose may be used in exterior locations on vessels in other than ocean or coastwise services.

(b) On vessels of 1,000 gross tons and over on an international voyage, each required fire pump, while delivering water through the fire main system at a pressure corresponding to that required by paragraph (c) of this section, shall have a minimum capacity of at least two-thirds of that required for an independent bilge pump. However, in no case shall the capacity of each fire pump be less than that otherwise required by this section.

(c) Each pump must be capable of delivering water simultaneously from the outlets having the greatest pressure drop from the five pumps to the nozzles which may not always be the two highest outlets, at a Pitot tube pressure of not less than 50 p.s.i. Where 1½-inch hose is permitted in lieu of 2½-inch hose by footnote 2 of Table 193.10-5(a), the pump capacity shall be determined on the same basis as if 2½-inch hose had been permitted.

Where ¾-inch hose is permitted by Table 193.10-5(a), the Pitot tube pressure may not be less than 35 p.s.i.

(d) Fire pumps shall be fitted on the discharge side with relief valves set to relieve at 25 p.s.i. in excess of the pressure necessary to maintain the requirements of paragraph (c) of this section or 125 p.s.i., whichever is greater. Relief valves may be omitted if the pumps, operating under shutoff conditions, are not capable of developing a pressure exceeding this amount.

(e) Fire pumps shall be fitted with a pressure gage on the discharge side of the pumps.

(f) Fire pumps may be used for other purposes provided at least one of the required pumps is kept available for use on the fire system at all times. Unless specifically approved by the Commandant, no branch lines shall be connected to the fire mains for other than fire and deck wash purposes. Other discharge lines shall lead from a discharge manifold near the fire pumps. In no case shall a pump having connection to an oil line be used as fire pump.

(g) The total area of the pipes leading from a pump shall not be less than the discharge area of the pump.

(h) On vessels with oil fired boilers, either main or auxiliary, or with internal combustion propulsion machinery, where 2 fire pumps are required, they shall be located in separate spaces, and the arrangement, pumps, sea connections, and sources of power shall be such as to insure that a fire in any one space will not put all of the fire pumps out of operation. However, where it is shown to the satisfaction of the Commandant that it is unreasonable or impracticable to meet this requirement due to the size or arrangement of the vessel, or for other reasons, the installation of a total flooding carbon dioxide system may be accepted as an alternate method of extinguishing any fire which would affect the powering and operation for the required fire pumps.

(i) Except as provided for in § 193.10-10(e), a sufficient number of hose streams for fire fighting purposes must be immediately available from the fire main at all times by either of the following methods:

(1) *Maintenance of water pressure.* (i) Water pressure must be maintained on the fire main at all times by the continuous operation of:

(A) One of the fire pumps; or

(B) Another suitable pump capable of supplying one hose stream at a Pitot tube pressure of not less than 50 p.s.i. (35 p.s.i. for ¾-inch hose); or,

(C) A pressure tank capable of supplying one hose stream at a Pitot tube pressure of not less than 50 p.s.i. (35 p.s.i. for ¾-inch hose) for five minutes.

(ii) An audible alarm must be installed to sound in a continuously manned space if the pressure in the fire main drops to less than that necessary to maintain the minimum Pitot tube pressures specified in § 193.10-5(i)(1)(i).

(2) *Remote control of fire pumps.* (i) At least one fire pump must be capable of remote activation and control.

(ii) If the fire pump is in a continuously manned machinery space, the controls for operating it and the controls for all necessary valves must be located on the manned operating platform in that space.

(iii) If the fire pump is in an unmanned machinery space, the controls for its operation and the controls for all necessary valves must be located in:

(A) The fire control station, if any; or,

(B) The bridge, if there is no fire control station; or,

(C) A readily accessible space acceptable to the Officer in Charge, Marine Inspection.

[CGFR 67-83, 33 FR 1145, Jan. 27, 1968, as amended by CGD 75-031, 40 FR 48349, Oct. 15, 1975]

§ 193.10-10 Fire hydrants and hose.

(a) The size of fire hydrants, hose, and nozzles and the length of hose required shall be as noted in Table 193.10-5(a).

(b) In lieu of the 2½-inch hose and hydrants specified in Table 193.10-5(a), on vessels over 1,500 gross tons, the hydrants in interior locations may have siamese connections for 1½-inch hose. In these cases the hose shall be 75 feet in length, and only one hose will be required at each fire station; however, if all such stations can be satisfactorily served with 50-foot lengths, 50-foot hose may be used.

(c) On vessels of 1,000 gross tons and over there shall be at least one shore connection to the fire main available to each side of the vessel in an accessible location. Suitable cutout valves and check valves shall be provided. Suitable adapters also shall be provided for furnishing the vessel's shore connections with couplings mating those on the shore fire lines. Such vessels on an international voyage, shall be provided with at least one international shore connection. Facilities shall be available enabling such a connection to be used on either side of the vessel. The international shore connection shall be in accordance with specification Subpart 162.034 of Part 162 of Subchapter Q (Specifications) of this chapter.

(d) Fire hydrants shall be of sufficient number and so located that any part of the vessel, other than main machinery spaces, may be reached with at least 2 streams of water from separate outlets, at least one of which shall be from a single length of hose. At least one hydrant and hose with a fog applicator shall be located outside and in the immediate vicinity of each laboratory. In main machinery spaces, all portions of such spaces shall be capable of being reached by at least 2 streams of water, each of which shall be from a single length of hose from separate outlets; however, this requirement need not apply to shaft alleys containing no assigned space for the stowage of combustibles. Fire hydrants shall be numbered as required by § 196.37-15 of this subchapter.

(e) All parts of the fire main located on exposed decks shall either be protected against freezing or be fitted with cutout valves and drain valves so that the entire exposed parts of such piping may be shut off and drained in freezing weather. Except when closed to prevent freezing, such valves shall be sealed open.

(f) The outlet at the fire hydrant shall be limited to any position from the horizontal to the vertical pointing downward, so that the hose will lead horizontally or downward to minimize the possibility of kinking.

(g) Each fire hydrant shall be provided with a single length of hose with nozzle attached and a spanner. A suitable hose rack or other device shall be provided for the proper stowage of the hose. If the hose is not stowed in the open or behind glass so as to be readily seen, the enclosures shall be marked in accordance with § 196.37-15 of this subchapter.

(h) Fire hose shall be connected to the outlets at all times. However, at open decks where no protection is afforded to the hose in heavy weather, the hose may be temporarily removed from the hydrant and stowed in an accessible nearby location.

(i) Each fire hydrant must have at least one length of firehose. Each firehose must have a combination solid stream and water spray nozzle that is approved under Subpart 162.027 of this chapter, except ¾ inch hose may have a garden hose nozzle that is bronze or metal with strength and corrosion resistance equivalent to bronze.

(i-1) Each of the following must have a low-velocity water spray applicator that is approved under Subpart 162.027 of this chapter:

(1) At least one length of firehose on each fire hydrant outside, and in the immediate vicinity of, each laboratory.

(2) In each propulsion machinery space containing an oil-fired boiler, internal combustion machinery, or oil fuel unit on a vessel of 1000 gross tons or more, each firehose having an approved combination nozzle. The length of each applicator must be four feet.

(i-2) Fixed brackets, hooks, or other means for stowing an applicator must be next to each fire hydrant that has an applicator under paragraph (i-1) of this section.

(j) Firehose shall not be used for any other purpose than fire extinguishing, drills, and testing.

(k) Fire hydrants, nozzles, and other fittings shall have threads to accommodate the hose connections noted in this paragraph. Firehose and couplings shall be as follows:

(1) Couplings shall be of brass, bronze, or other equivalent metal. National Standard firehose coupling threads shall be used for the 1½-inch and 2½-inch sizes, i.e., 9 threads per

inch for 1½-inch hose and 7½ threads per inch for 2½-inch hose.

(2) Unlined hose shall not be used in the machinery spaces.

(3) Where ¾-inch hose is permitted by Table 193.10-5(a), the hose and couplings shall be of good commercial grade.

(4) Each section of fire hose used after January 1, 1980 must be lined commercial fire hose that conforms to Underwriters' Laboratories, Inc. Standard 19 or Federal Specification ZZ-H-451E. Hose that bears the label of Underwriters' Laboratories, Inc. as lined fire hose is accepted as conforming to this requirement. Each section of replacement fire hose or any section of new fire hose placed aboard a vessel after January 1, 1977 must also conform to the specification required by this paragraph.

(46 U.S.C. 390b, 481, and 391a; 49 U.S.C. 1655(b)(1); and 49 CFR 1.46(b) and 1.46(n)(4))

[CGFR 67-83, 33 FR 1145, Jan. 27, 1968, as amended by CGD 74-60, 41 FR 43152, Sept. 30, 1976; CGD 76-086, 44 FR 2394, Jan. 11, 1979]

§ 193.10-15 Piping.

(a) All piping, valves, and fittings, shall meet the applicable requirements of Subchapter F (Marine Engineering) of this chapter.

(b) All distribution cut-off valves shall be marked as required by § 196.37-10 of this subchapter.

(c) For vessels on an international voyage, the diameter of the fire main shall be sufficient for the effective distribution of the maximum required discharge from two fire pumps operating simultaneously. This requirement is in addition to § 193.10-5(c). The discharge of this quantity of water through hoses and nozzles at a sufficient number of adjacent hydrants must be at a minimum Pitot tube pressure of 50 pounds per square inch.

[CGFR 67-83, 33 FR 1145, Jan. 27, 1968, as amended by CGD 75-031, 40 FR 48349, Oct. 15, 1975]

§ 193.10-90 Installations contracted for prior to March 1, 1968.

(a) Installations contracted for prior to March 1, 1968, shall meet the following requirements:

(1) Except as specifically modified by this paragraph, the requirements of §§ 193.10-5 through 193.10-15 shall be complied with insofar as the number and general type of equipment is concerned.

(2) Existing equipment, except firehose nozzles and low-velocity water spray applicators, previously approved, but not meeting the applicable requirements of §§ 193.10-5 through 193.10-15 may be continued in service so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs, alteration, and replacements may be permitted to the same standards as the original installations. However, all new installations or major replacements shall meet the applicable requirements in this subpart for new installations.

(3) The general requirements of § 193.10-5 (c) through (g), § 193.10-10 (d) through (i), and § 95.10-15 shall be complied with insofar as is reasonable and practicable.

(4) Before February 12, 1981, each firehose nozzle must meet § 193.10-10(i), and each low-velocity water spray applicator must meet § 193.10-10(i-1), except if the nozzle or applicator was approved under Subpart 162.027 of this chapter before May 26, 1965—

(i) The nozzle must have a high-velocity spray tip that meets § 162.027-2(c) of this chapter, and the applicator must have a low-velocity water spray head that meets § 162.027-2(c) of this chapter; or

(ii) the fire hydrant or nozzle must have a self-cleaning strainer that meets the requirements under which the nozzle was approved.

(5) After February 11, 1981, each new or replacement nozzle must meet § 193.10-10(i), and each new or replacement low-velocity water spray applicator must meet § 193.10-10(i-1).

(46 U.S.C. 390b, 481, and 391a; 49 U.S.C. 1655(b)(1); and 49 CFR 1.46(b) and 1.46(n)(4))

[CGFR 67-83, 33 FR 1145, Jan. 27, 1968, as amended by CGD 76-086, 44 FR 2394, Jan. 11, 1979]

Subpart 193.15—Carbon Dioxide Extinguishing Systems, Details

§ 193.15-1 Application.

(a) The provisions of this subpart shall apply to all new installations contracted for on or after March 1, 1968.

(b) Installations contracted for prior to March 1, 1968, shall meet the requirements of § 193.15-90.

(c) The requirements of this subpart are based on a "high pressure system," i.e., one in which the carbon dioxide is stored in liquid form at atmospheric temperature. Details for "low pressure systems," i.e., those in which the carbon dioxide is stored in liquid form at a continuously controlled low temperature, may be specifically approved by the Commandant where it is demonstrated that a comparable degree of safety and fire extinguishing ability is achieved.

§ 193.15-5 Quantity, pipe sizes, and discharge rates.

(a) *General.* The amount of carbon dioxide required for each space shall be as determined by paragraphs (b) through (d) of this section.

(b) *Total available supply.* A separate supply of carbon dioxide need not be provided for each space protected. The total available supply shall be at least sufficient for the space requiring the greatest amount.

(c) *Enclosed ventilation systems for rotating electrical propulsion equipment.* (1) The number of pounds of carbon dioxide required for the initial charge shall be equal to the gross volume of the system divided by 10 for systems having a volume of less than 2,000 cubic feet, and divided by 12 for systems having a volume of 2,000 cubic feet or more.

(2) In addition to the amount required by paragraph (c)(1) of this section there shall be sufficient carbon dioxide available to permit delayed discharges of such quantity as to maintain at least a 25-percent concentration until the equipment can be stopped. If the initial discharge is such as to achieve this concentration until the equipment is stopped, no delayed discharge need be provided.

(3) The piping for the delayed discharge shall not be less than ½-inch standard pipe, and no specific discharge rate need be applied to such systems. On small systems, this pipe may be incorporated with the initial discharge piping.

(4) The piping for the initial charge shall be in accordance with Table 193.15-5(d)(4), and the discharge of the required amount shall be completed within 2 minutes.

(d) *Machinery spaces, paint lockers, tanks, chemical storerooms, and similar spaces.* (1) Except as provided in paragraph (d)(3) of this section, the number of pounds of carbon dioxide required for each space shall be equal to the gross volume of the space divided by the appropriate factor noted in Table 193.15-5(d)(1). If fuel can drain from the compartment being protected to an adjacent compartment, or if the compartments are not entirely separate, the requirements for both compartments shall be used to determine the amount of carbon dioxide to be provided. The carbon dioxide shall be arranged to discharge into both such compartments simultaneously.

TABLE 193.15-5(d)(1)

[Gross volume of compartment, cubic feet]

Over	Not over	Factor
	500	15
500	1,600	16
1,600	4,500	18
4,500	50,000	20
50,000		22

(2) For the purpose of the requirements of this paragraph, the volume of the machinery space shall be taken as exclusive of the normal machinery casing unless the boiler, internal combustion machinery, or fuel oil installations extend into such space, in which case the volume shall be taken to the top of the casing or the next material reduction in casing area, whichever is lower. "Normal machinery casing" and "material reduction in casing area" shall be defined as follows:

(i) By "normal machinery casing" shall be meant a casing the area of which is not more than 40 percent of the maximum area of the machinery space.

(ii) By "material reduction in casing area" shall be meant a reduction to at least 40 percent of the casing area.

(3) For vessels on an international voyage contracted for on or after May 26, 1965, the amount of carbon dioxide required for a space containing propulsion boilers or internal combustion propulsion machinery shall be as given by paragraphs (d)(1) and (2) of this section or by dividing the entire volume, including the casing, by a factor of 25, whichever is the larger.

(4) Branch lines to the various spaces shall be as noted in Table 193.15-5(d)(4).

TABLE 193.15-5(d)(4)

Maximum quantity of carbon dioxide required, pounds	Minimum pipe size, inches
100	½
225	¾
300	1
600	1¼
1,000	1½
2,450	2
2,500	2½
4,450	3
7,100	3½
10,450	4
15,000	4½

(5) Distribution piping within the space shall be proportioned from the supply line to give proper distribution to the outlets without throttling.

(6) The number, type, and location of discharge outlets shall be such as to give a uniform distribution throughout the space.

(7) The total area of all discharge outlets shall not exceed 85 percent nor be less than 35 percent of the normal cylinder outlet area or the area of the supply pipe, whichever is smaller. The nominal cylinder outlet area in square inches shall be determined by multiplying the factor 0.0022 by the number of pounds of carbon dioxide required, except that in no case shall this outlet area be less than 0.110 square inch.

(8) The discharge of at least 85 percent of the required amount of carbon dioxide shall be complete within 2 minutes.

§ 193.15-10 Controls.

(a) Except as noted in § 193.15-20(b), all controls and valves for the operation of the system shall be outside the space protected and shall not be located in any space that might be cut off or made inaccessible in the event of fire in any of the spaces protected.

(b) If the same cylinders are used to protect more than one hazard, a manifold with normally closed stop valves shall be used to direct the carbon dioxide into the proper space. If cylinders are used to protect only one hazard, a normally closed stop valve shall be installed between the cylinders and the hazard except for systems of the type indicated in § 193.15-5(d) which contain not more than 300 pounds of carbon dioxide.

(c) One of the stations controlling the system for the main machinery space and the chemical storerooms shall be located as convenient as practicable to one of the main escapes from these spaces. All control stations and the individual valves and controls shall be marked as required by §§ 196.37-10 and 196.37-13 of this subchapter.

(d) Systems of the type indicated in § 193.15-5(d) shall be actuated by one control operating the valve to the space and a separate control releasing at least the required amount of carbon dioxide. These two controls shall be located in a box or other enclosure clearly identified for the particular space. Those systems installed without a stop valve shall be operated by one control releasing at least the required amount of carbon dioxide.

(e) Where provisions are made for the simultaneous release of a given amount of carbon dioxide by operation of a remote control, provisions shall also be made for manual control at the cylinders. Where gas pressure from pilot cylinders is used as a means for releasing the remaining cylinders, not less than two pilot cylinders shall be used for systems consisting of more than two cylinders. Each of the pilot cylinders shall be capable of manual control at the cylinder, but the remaining cylinders need not be capable of individual manual control.

(f) Systems of the type indicated in § 193.15-5(d), other than systems for tanks, which are of more than 300 pounds of carbon dioxide, shall be fitted with an approved delayed discharge so arranged that the alarm will be sounded for at least 20 seconds before the carbon dioxide is released into the space. Such systems of not more than 300 pounds of carbon dioxide shall also have a similar delayed discharge, except for those systems for tanks and for spaces which have a suitable horizontal escape.

(g) All distribution valves and controls shall be of an approved type. All controls shall be suitably protected.

(h) Complete but simple instructions for the operation of the systems must be located in a conspicuous place at or near all pull boxes, stop valve controls and in the CO_2 cylinder storage room. On systems in which the CO_2 cylinders are not within the protected space, these instructions must also include a schematic diagram of the system and instructions detailing alternate methods of discharging the system should the manual release or stop valve controls fail to operate. Each control valve to branch lines must be marked to indicate the related space served.

(i) If the space or enclosure containing the carbon dioxide supply for controls is to be locked, a key to the space or enclosure shall be in a break-glass-type box conspicuously located adjacent to the opening.

[CGFR 67-83, 33 FR 1145, Jan. 27, 1968, as amended by CGD 74-100R, 40 FR 6209, Feb. 10, 1975]

§ 193.15-15 Piping.

(a) The piping, valves, and fittings shall have a bursting pressure of not less than 6,000 pounds per square inch.

(b) All piping, in nominal sizes not over ¾ inch shall be at least Schedule 40 (standard weight) and in nominal sizes over ¾ inch, shall be at least Schedule 80 (extra heavy).

(c) All piping valves, and fittings of ferrous materials shall be protected inside and outside against corrosion unless specifically approved otherwise by the Commandant.

(d) A pressure relief valve or equivalent set to relieve between 2,400 and 2,800 pounds per square inch shall be installed in the distribution manifold or such other location as to protect the piping in the event that all branch line shutoff valves are closed.

(e) All dead-end lines shall extend at least 2 inches beyond the last orifice and shall be closed with cap or plug.

(f) All piping, valves, and fittings shall be securely supported, and where necessary, protected against injury.

(g) Drains and dirt traps shall be fitted where necessary to prevent the accumulation of dirt or moisture. Drains and dirt traps shall be located in accessible locations where possible.

(h) Piping shall be used for no other purpose except that it may be incorporated with the fire-detecting system.

(i) Piping passing through living quarters shall not be fitted with drains or other openings within such spaces.

(j) Installation test requirements are:

(1) Upon completion of the piping installation, and before the cylinders are connected, a pressure test shall be applied as set forth in this paragraph. Only carbon dioxide or other inert gas shall be used for this test.

(2) The piping from the cylinders to the stop valves in the manifold shall be subjected to a pressure of 1,000 pounds per square inch. With no additional gas being introduced to the system, it shall be demonstrated that the leakage of the system is such as not to permit a pressure drop of more than 150 pounds per square inch per minute for a 2-minute period.

(3) The individual branch lines to the various spaces protected shall be subjected to a test similar to that described in the preceding subparagraph with the exception that the pressure used shall be 600 pounds per square inch in lieu of 1,000 pounds per square inch. For the purpose of this test, the distribution piping shall be capped within the space protected at the first joint ahead of the nozzles.

(4) In lieu of the tests prescribed in the preceding paragraphs in this paragraph, small independent systems protecting spaces such as emergency generator rooms, lamp lockers, chemical storerooms, etc., may be tested by blowing out the piping with air at a

pressure of at least 100 pounds per square inch.

§ 193.15-20 Carbon dioxide storage.

(a) Except as provided in paragraph (b) of this section, the cylinders shall be located outside the spaces protected, and shall not be located in any space that might be cut off or made inaccessible in the event of a fire in any of the spaces protected.

(b) Systems of the type indicated in § 193.15-5(d), consisting of not more than 300 pounds of carbon dioxide, may have cylinders located within the space protected. If the cylinder stowage is within the space protected, the system shall be arranged in an approved manner to be automatically operated by a heat actuator within the space in addition to the regular remote and local controls.

(c) The space containing the cylinders shall be properly ventilated and designed to preclude an anticipated ambient temperature in excess of 130° F.

(d) Cylinders shall be securely fastened and supported, and where necessary, protected against injury.

(e) Cylinders shall be so mounted as to be readily accessible and capable of easy removal for recharging and inspection. Provisions shall be available for weighing the cylinders.

(f) Where subject to moisture, cylinders shall be so installed as to provide a space of at least 2 inches between the flooring and the bottom of the cylinders.

(g) Cylinders shall be mounted in an upright position or inclined not more than 30 degrees from the vertical. However, cylinders which are fitted with flexible or bent siphon tubes may be inclined not more than 80 degrees from the vertical.

(h) Where check valves are not fitted on each independent cylinder discharge, plugs or caps shall be provided for closing outlets when cylinders are removed for inspection or refilling.

(i) All cylinders used for storing carbon dioxide shall be fabricated, tested, and marked in accordance with the regulations of the Interstate Commerce Commission as noted in § 147.04-1 of Subchapter N (Dangerous Cargoes) of this chapter.

§ 193.15-25 Discharge outlets.

(a) Discharge outlets shall be of an approved type.

§ 193.15-30 Alarms.

(a) Space normally accessible to persons on board while the vessel is being navigated which are protected by a carbon dioxide extinguishing system and are required to be fitted with a delayed discharge system other than paint and lamp lockers and similar small spaces, shall be fitted with an approved audible alarm which will be automatically sounded when the carbon dioxide is admitted to the space. The alarm shall be conspicuously and centrally located and shall be marked as required by § 196.37-9 of this subchapter. Such alarms shall be so arranged as to sound during the 20-second delay period prior to the discharge of carbon dioxide into the space, and the alarm shall depend on no source of power other than the carbon dioxide.

§ 193.15-35 Enclosure openings.

(a) Where mechanical ventilation is provided for spaces which are protected by carbon dioxide extinguishing systems provisions shall be made so that the ventilation system is automatically shut down with the operation of the system to that space.

(b) Where natural ventilation is provided for spaces protected by a carbon dioxide extinguishing system, provisions shall be made for easily and effectively closing off the ventilation.

(c) Means shall be provided for closing all other openings to the space protected from outside such space. In this respect, relatively tight doors, shutters, or dampers shall be provided for openings in the lower portion of the space. The construction shall be such that openings in the upper portion of the space can be closed off either by permanently installed means or by the use of canvas or other material which is normally carried by the vessel.

§ 193.15–40 Pressure relief.

(a) Where necessary, relatively tight compartments such as refrigeration spaces, paint lockers, etc., shall be provided with suitable means for relieving excessive pressure accumulating within the compartment when the carbon dioxide is injected.

§ 193.15–90 Installations contracted for prior to March 1, 1968.

(a) Installations contracted for prior to March 1, 1968, shall meet the following requirements:

(1) Existing arrangements, materials, and facilities previously approved shall be considered satisfactory so long as they meet the minimum requirements of this paragraph and they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs, alterations, and replacements may be permitted to the same standards as the original installations. However, all new installations or major replacements shall meet the applicable requirements in this subpart for new installations.

(2) The details of the systems shall be in general agreement with §§ 193.15–5 through 193.15–40 insofar as is reasonable and practicable, with the exception of § 193.15–5(d) (1), (2), and (4), covering machinery spaces, etc., which systems may be installed in accordance with paragraphs (a) (3) through (6) of this section.

(3) In boilerrooms, the bilges shall be protected by a system discharging principally below the floorplates. Perforated pipe may be used in lieu of discharge nozzles for such systems. The number of pounds of carbon dioxide shall be equal to the gross volume of the boilerroom taken to the top of the boilers divided by 36. In the event of an elevated boilerroom which drains to the machinery space, the system shall be installed in the engineroom bilge and the gross volume shall be taken to the flat on which the boilers are installed.

(4) In machinery spaces where main propulsion internal combustion machinery is installed, the number of pounds of carbon dioxide required shall be equal to the gross volume of the space taken to the under side of the deck forming the hatch opening divided by 22.

(5) In miscellaneous spaces other than cargo or main machinery spaces the number of pounds of carbon dioxide required shall be equal to the gross volume of the space divided by 22.

(6) Branch lines to the various spaces other than cargo and similar spaces shall be as noted in Table 193.15–90(a)(6). This table is based on cylinders having discharge outlets and siphon tubes of ⅜-inch diameter.

TABLE 193.15–90(a)(6)

Number of cylinders		Nominal pipe size, inches
Over	Not over	
	2	½—standard.
2	4	¾—standard.
4	6	1—extra heavy.
6	12	1¼—extra heavy.
12	16	1½—extra heavy.
16	27	2—extra heavy.
27	39	2½—extra heavy.
39	60	3—extra heavy.
60	80	3½—extra heavy.
80	104	4—extra heavy.
104	165	5—extra heavy.

Subpart 193.50—Hand Portable Fire Extinguishers and Semiportable Fire Extinguishing Systems, Arrangements and Details

§ 193.50–1 Application.

(a) The provisions of this subpart, with the exception of § 193.50–90, shall apply to all vessels, including non-self-propelled vessels of less than 300 gross tons, contracted for on or after March 1, 1968.

(b) All vessels other than unmanned barges contracted for prior to March 1, 1968, shall meet the requirements of § 193.50–90.

(c) All unmanned barges are exempted from the requirements in this subpart. However, if such barges carry on board hand portable fire extinguishers and semiportable fire extinguishing systems, then such equipment shall be in accordance with this subpart for manned barges.

§ 193.50–5 Classification.

(a) Hand portable fire extinguishers and semiportable fire extinguishing systems shall be classified by a combination letter and number symbol. The letter indicating the type of fire which the unit could be expected to extinguish and the number indicating the relative size of the unit.

(b) The types of fire will be designated as follows:

(1) "A" for fires in ordinary combustible materials where the quenching and cooling effects of quantities of water, or solutions containing large percentages of water, are of first importance.

(2) "B" for fires in flammable liquids, greases, etc., where a blanketing effect is essential.

(3) "C" for fires in electrical equipment where the use of nonconducting extinguishing agent is of first importance.

(c) The number designations for size will start with "I" for the smallest to "V" for the largest. Sizes I and II are considered hand portable fire extinguishers and sizes III, IV, and V are considered semiportable fire extinguishing systems which shall be fitted with suitable hose and nozzle or other practicable means so that all portions of the space concerned may be covered. Examples of size graduations for some of the typical hand portable and semiportable fire extinguishing systems are set forth in Table 193.50-5(c).

TABLE 193.50-5(c)

Classification		Soda-acid and water, gals.	Foam, gals.	Carbon dioxide, lbs.	Dry chemical, lbs.
Type	Size				
A	II	2½	2½		
B	I		1¼	4	2
B	II		2½	15	10
B	III		12	35	20
B	IV		20	50	30
B	V		40	100	50
C	I			4	2
C	II			15	10

(d) All hand portable fire extinguishers and semiportable fire extinguishing systems shall have permanently attached thereto a metallic nameplate giving the name of the item, the rated capacity in gallons, quarts, or pounds, the name and address of the person or firm for whom approved, and the identifying mark of the actual manufacturer.

(e) Vaporizing liquid type fire extinguishers containing carbon tetrachloride or chlorobromomethane or other toxic vaporizing liquids shall not be permitted.

§ 193.50-10 Location.

(a) Approved hand portable fire extinguishers and semiportable fire extinguishing systems shall be installed in accordance with Table 193.50-10(a). The location of the equipment shall be to the satisfaction of the Officer in Charge, Marine Inspection. Nothing in this paragraph shall be construed as limiting the Officer in Charge, Marine Inspection, from requiring such additional equipment as he deems necessary for the proper protection of the vessel.

(b) Semiportable fire extinguishing systems shall be located in the open so as to be readily seen.

(c) If hand portable fire extinguishers are not located in the open or behind glass so that they may be readily seen, they may be placed in enclosures together with the firehose, provided such enclosures are marked as required by § 196.37-15 of this subchapter.

(d) Hand portable fire extinguishers and their stations shall be numbered in accordance with § 196.37-15 of this subchapter.

(e) Hand portable or semiportable extinguishers, which are required on their nameplates to be protected from freezing, shall not be located where freezing temperatures may be expected.

TABLE 193.50-10(a)—HAND PORTABLE FIRE EXTINGUISHER AND SEMIPORTABLE FIRE EXTINGUISHING SYSTEMS

Space	Classification (see § 193.50-5)	Quantity and location
Safety Areas[1]		
Wheelhouse or fire control room		None required.
Stairway and elevator enclosures		Do.
Communicating corridors	A-II	1 in each main corridor not more than 150 feet apart. (May be located in stairways.)
Lifeboat embarkation and lowering stations		None required.
Radio room	C-I[2]	2 in vicinity of exit.[2]
Accommodations[1]		
Staterooms, toilet spaces, public spaces, offices, lockers, isolated storerooms, and pantries open decks, etc.		None required.
Service spaces		
Galleys	B-II or C-II	1 for each 2,500 square feet or fraction thereof suitable for hazards involved.
Machinery spaces		
Paint and lamp rooms	B-II	1 outside space in vicinity of exit.
Accessible baggage, mail, and specie rooms, and storerooms.	A-II	1 for each 2,500 square feet or fraction thereof located in vicinity of exits, either inside or outside the spaces.
Carpenter shop and similar spaces	A-II	1 outside the space in vicinity of exit.
Coal-fired boilers: Bunker and boiler space		None required.
Oil-fired boilers: Spaces containing oil-fired boilers, either main or auxiliary, or their fuel-oil units.	B-II	2 required.[3]
	B-V	
	B-V	1 required.[4]
Internal combustion or gas turbine propelling machinery spaces.	B-II	1 for each 1,000 brake horsepower, but not less than 2 nor more than 6.[5]
	B-III	1 required.[6 7]
Electric propulsive motors or generators of open type.	C-II	1 for each propulsion motor or generator unit.
Enclosed ventilating systems for motors and generators of electric propelling machinery.		None required.
Auxiliary spaces:		
Internal combustion gas turbine	B-II	1 outside the space in vicinity of exit.[7]
Electric emergency motors or generators	C-II	1 outside the space in vicinity of exit.[8]
Steam		None required.
Trunks to machinery spaces		Do.
Fuel tanks		Do.
Scientific spaces		
Chemistry laboratory or scientific laboratory	C-II	1 dry chemical and 1 carbon dioxide for each 300 square feet or fraction thereof, with one (1) of each kind located in the vicinity of the exit.
Chemical storeroom	C-II	Same as for the chemistry laboratory.

[1] Two B-I hand portable fire extinguishers may be substituted for 1 B-II.

[2] For vessels on an international voyage, substitute 1 C-II in vicinity of exit.

[3] Vessels of less than 1,000 gross tons require 1.

[4] Vessels of less than 1,000 gross tons may substitute 1 B-IV.

[5] Only 1 required for motorboats.

[6] If oil burning donkey boiler fitted in space, the B-V previously required for the protection of the boiler may be substituted. Not required where a fixed carbon dioxide system is installed.

[7] Not required on vessels of less than 300 gross tons if fuel has a flash-point higher than 110° F.

[8] Not required on vessels of less than 300 gross tons.

§ 193.50-15 Spare charges.

(a) For all vessels spare charges shall be carried for at least 50 percent of each size and each variety, i.e., foam, soda-acid, carbon dioxide, etc., of hand portable fire extinguishers required by § 193.50-10(a). However, if the unit is of such variety that it cannot be readily recharged by the vessel's personnel, one spare unit of the same classification shall be carried in lieu of spare charges for all such units of the same size and variety.

(b) Spare charges shall be so packaged as to minimize the hazards to personnel while recharging the units. Acid shall be contained in a Crown stopper type of bottle.

§ 193.50-20 Semiportable fire extinguishers.

(a) The frame or support of each size III, IV, and V fire extinguisher requuired by Table 193.50-10(a) must be welded or otherwise permanently attached to a bulkhead or deck.

(b) If an approved size III, IV, or V fire extinguisher has wheels and is not required by Table 193.50-10(a), it must be securely stowed when not in use to prevent it from rolling out of control under heavy sea conditions.

(46 U.S.C. 375, 390b, 416, 481, and 526p; 49 U.S.C. 1655; 49 CFR 1.46)

[CGD 77-039, 44 FR 34133, June 14, 1979]

§ 193.50-90 Vessels contracted for prior to March 1, 1968.

(a) Vessels contracted for prior to March 1, 1968, shall meet the following requirements:

(1) Except as specifically modified by this paragraph, the requirements of §§ 193.50-5 through 193.50-15 shall be complied with insofar as the number and general type of equipment is concerned.

(2) Existing installations previously approved, but not meeting the applicable requirements of §§ 193.50-5 through 193.50-15 may be continued in service so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection, and they are in general agreement with the degree of safety prescribed by Table 193.50-10(a). Minor modifications may be made to the same standard as the original installation: *Provided*, That in no case will a greater departure from the standards of Table 193.50-10(a) be permitted than presently exists.

(3) All new equipment and installations shall meet the applicable requirements in this subpart for new vessels.

Subpart 193.60—Fire Axes

§ 193.60-1 Application.

(a) The provisions of this subpart shall apply to all vessels other than unmanned barges.

(b) Unmanned barges are exempted from the requirements in this subpart. However, if such barges carry on board fire axes, then such equipment shall be in accordance with this subpart for manned barges.

§ 193.60-5 Number required.

(a) All vessels shall carry at least the minimum number of fire axes as set forth in Table 193.60-5(a). Nothing in this paragraph shall be construed as limiting the Officer in Charge, Marine Inspection, from requiring such additional fire axes as he deems necessary for the proper protection of the vessel.

TABLE 193.60-5(a)

Gross tons		Number of axes
Over	Not over	
	50	1
50	200	2
200	500	4
500	1,000	6
1,000		8

§ 193.60-10 Location.

(a) Fire axes shall be distributed throughout the spaces available to persons on board so as to be most readily available in the event of emergency.

(b) If fire axes are not located in the open, or behind glass, so that they may be readily seen, they may be placed in enclosures together with the firehose, provided such enclosures are marked as required by § 196.37-15 of this subchapter.

PART 194—HANDLING, USE AND CONTROL OF EXPLOSIVES AND OTHER DANGEROUS ARTICLES

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Subpart 194.90—Vessels Contracted for Prior to March 1, 1968

194.90-1 Requirements.

AUTHORITY: R.S. 4405, as amended, 4462, as amended, sec. 5, 79 Stat. 424; 46 U.S.C. 375, 416, 445. Interpret or apply R.S. 4417, as amended, 4418, as amended, 4453, as amended, sec. 10, 35 Stat. 428, as amended, 41 Stat. 305, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 6(b)(1), 80 Stat. 938; 46 U.S.C. 391, 392, 435, 170, 481, 489, 395, 363, 367, 49 U.S.C. 1655(b), E.O. 11239; 3 CFR 1964-1965 Comp.; 49 CFR 1.4(a)(2).

SOURCE: CGFR 67-83, 33 FR 1151, Jan. 27, 1968, unless otherwise noted.

Subpart 194.01—Application

§ 194.01-1 General.

(a) The provisions of this part, with the exception of Subpart 194.90, shall apply to all vessels other than non-self-propelled vessels of less than 300 gross tons contracted for on or after March 1, 1968.

(b) Non-self-propelled vessels of less than 300 gross tons shall not be subject to the provisions of this part except as provided otherwise by paragraph (c) of this section.

(c) Non-self-propelled vessels of less than 300 gross tons shall be governed by the applicable portions of Part 145 of Subchapter N (Dangerous Cargoes) of this chapter, and the applicable portions of 33 CFR Parts 6 and 121 to 126, inclusively. Alternately, the owner, at his option, may comply with the provisions of this part.

(d) Vessels contracted for prior to March 1, 1968, shall meet the requirements of Subpart 194.90.

Subpart 194.05—Stowage and Marking

§ 194.05-1 General.

(a) The master shall be held responsible for and shall require the proper handling, stowage, and marking of all chemical stores and reagents.

(b) Chemical stores shall be stowed in a chemical storeroom in approved drums, barrels, or other packages, properly marked and labeled, as prescribed by Part 146 of Subchapter N (Dangerous Cargoes) of this chapter for the specific commodities, except that those chemical stores excluded from the storeroom by §§ 194.20-15 and 194.20-17, and those chemical stores not desired to be located in a chemical storeroom, shall be stored in accordance with the appropriate provisions of Part 146 insofar as such regulations apply to cargo vessels.

(c) Ships' stores shall be regulated in accordance with the appropriate provisions of Part 147 of Subchapter N (Dangerous Cargoes) of this chapter.

§ 194.05-3 Chemical stores.

(a) Chemical stores are those chemicals which possess one or more of the following properties and shall be classed, marked, and labeled in accordance with Subchapter N (Dangerous Cargoes) of this chapter as follows:

(1) Explosives, in accordance with Subpart 146.20.

(2) Flammable liquids, in accordance with Subpart 146.21.

(3) Flammable solids, in accordance with Subpart 146.22.

(4) Oxidizing materials, in accordance with Subpart 146.22.

(5) Corrosive liquids, in accordance with Subpart 146.23.

(6) Compressed gasses, in accordance with Subpart 146.24.

(7) Poisonous articles, in accordance with Subpart 146.25.

(8) Combustible liquids, in accordance with Subpart 146.26.

(9) Hazardous articles, in accordance with Subpart 146.27.

(b) Substances for use in the chemistry laboratory, or to be stored in the chemical storeroom and generally covered under paragraph (a) of this section but not specifically listed by name in § 146.04-5 must be approved by the Commandant prior to being carried on board a vessel.

§ 194.05-5 Chemicals in the chemistry laboratory.

(a) Small working quantities of chemical stores in the chemistry laboratory which have been removed from the approved shipping container need not be marked or labeled as required by Part 146 of Subchapter N (Dangerous Cargoes) of this chapter. Reagent containers in the laboratory shall be marked to show at least the following:

(1) Common chemical name.

(2) Hazards, if any; e.g., flammable, poison, etc.

(b) In the interest of facilitating scientific activities, no restrictions are intended which will limit the variety of chemical stores which may be used in the chemical laboratory. With the knowledge and approval of the master, the laboratory supervisor may be responsible for stowage and use of materials within the laboratory and chemical storeroom.

(c) Reagent containers shall be properly secured against shifting and spillage. Insofar as practical all reagents shall be stowed in suitable, unbreakable containers.

§ 194.05-7 Explosives—Detail requirements.

(a) Class A explosives and blasting caps, except as otherwise provided by this subpart, shall be carried in magazines specifically fitted for that purpose as described in Subpart 194.10. The Class A explosives magazine requirements of § 146.09-1 through 146.09-6 of Subchapter N (Dangerous Cargoes) of this chapter, shall apply only to those vessels already so fitted under the provisions of Subpart 146.90.

(b) Military explosives shall be identified by their appropriate Interstate Commerce Commission classification.

(c)(1) Compatibility of magazine stowage shall be in accordance with § 146.20-90 of Subchapter N (Dangerous Cargoes) of this chapter.

(2) Magazine chests, magazine vans, and deck stowage areas shall be separated by a distance of at least 25 feet if their contents are incompatible with each other. Reduction of this distance to allow for special configurations will

be permitted only if specifically approved by the Commandant.

(d) On deck stowage of unfused depth charges or other unfused case type military explosives is authorized as follows:

(1) Stowage shall be in a location reasonably protected from the full force of boarding seas.

(2) Stowage shall be protected from direct exposure to the sun by overhead decks, awnings, or tarpaulins. Decks shall be constructed of incombustible materials; awnings and tarpaulins shall be fire-resistant and/or flame proof fabric.

(3) Items shall be properly secured by using existing vessel structures such as bulwarks, hatch coamings, shelter deck and poop bulkheads as part boundaries and effectively closing in the items by fitting angle bar closing means secured by bolting to clips or other parts of the ship's structure. Lashing of deck stowage is permitted provided eye pads or other suitable means are fitted to secure such lashings and provided the individual items are of such a configuration as to prevent slippage of the lashings. Shoring and dunnage may be used as necessary to further facilitate the security of the stowage.

(4) Stowage area shall be selected so as to provide for safe access to all internal spaces and to all parts of the deck required to be used in navigation and working of the vessel. Stowage shall not be on or under the bridge, or navigating deck, or within a distance, in a horizontal plane, of 25 feet of an operating or embarkation point of any lifeboat or raft. Reduction of this distance to allow for special configurations will be permitted only if specifically approved by the Commandant.

§ 194.05–9 Flammable liquid chemical stores—Detail requirements.

(a) Flammable liquids as chemical stores and reagents are governed by Subparts 194.15 and 194.20.

(b) Other flammable liquids are regulated by the appropriate portions of Subpart 146.21 of Part 146 or Part 147 of Subchapter N (Dangerous Cargoes) of this chapter.

§ 194.05–11 Flammable solids and oxidizing materials—Detail requirements.

(a) Flammable solids and oxidizing materials used as chemical stores and reagents are governed by Subparts 194.15 and 194.20.

(b) Oxidizing materials used as blasting agents are regulated by the appropriate portions of Subpart 146.22 of Part 146 of Subchapter N (Dangerous Cargoes) of this chapter.

§ 194.05–13 Corrosive liquids as chemical stores—Detail requirements.

(a) Corrosive liquids as chemical stores and reagents are governed by Subparts 194.15 and 194.20.

(b) Other corrosive liquids are regulated by the appropriate portions of Subpart 146.23 of Part 146 or Part 147 of Subchapter N (Dangerous Cargoes) of this chapter.

§ 194.05–15 Compressed gases as chemical stores—Detail requirements.

(a) Compressed gases as chemical stores and reagents are governed by Subparts 194.15 and 194.20.

(b) Other compressed gases are regulated in accordance with the appropriate portions of Subpart 146.24 of Part 146 or Part 147 of Subchapter N (Dangerous Cargoes) of this chapter.

§ 194.05–17 Poisonous articles as chemical stores—Detail requirements.

(a) Poisonous articles as chemical stores and reagents shall be governed by Subparts 194.15 and 194.20.

(b) Other poisonous articles shall be regulated by the appropriate portions of Subpart 146.25 of Part 146 or Part 147 of Subchapter N (Dangerous Cargoes) of this chapter.

§ 194.05–19 Combustible liquids as chemical stores—Detail requirements.

(a) Combustible liquid chemical stores and reagents shall be governed by Subparts 194.15 and 194.20.

(b) Other combustible liquids shall be regulated by the appropriate portions of Subpart 146.26 of Part 146 or Part 147 of Subchapter N (Dangerous Cargoes) of this chapter.

§ 194.05-21 Hazardous articles as chemical stores—Detail requirements.

(a) Hazardous articles as chemical stores and reagents shall be governed by appropriate portions of Subparts 194.15 and 194.20.

(b) Other hazardous articles shall be regulated by the appropriate portions of Subpart 146.27 of Part 146 or Part 147 of Subchapter N (Dangerous Cargoes) of this chapter.

Subpart 194.10—Magazines

§ 194.10-1 Application.

(a) The provisions of this subpart apply to the construction of integral magazines, magazine vans, and magazine chests.

(b) Loading, loading procedures, shipper's requirements, and other features not related to the construction of magazines shall be in accordance with the applicable provisions of Part 146 of Subchapter N (Dangerous Cargoes) of this chapter and 33 CFR Part 6 and Parts 121 to 126, inclusive.

§ 194.10-5 Type and location.

(a) *Integral magazines.* (1) Magazines shall be of permanent construction located below the freeboard deck and where practicable below the waterline.

(2) Magazines shall not be located in horizontal proximity to or below accommodation spaces.

(3) Magazines shall not be located adjacent to the collision bulkhead, nor in bearing with a bulkhead forming the boilerroom, engineroom, gallery, or other high fire hazard area boundary. If it is necessary to construct the magazine in proximity to these areas, a cofferdam space of at least 2 feet shall be provided between the bulkhead or deck involved and the magazine. Such a cofferdam shall be provided with suitable ventilation and shall not be used for storage purposes.

(b) *Magazine vans.* (1) Magazine vans may be installed on deck in a location protected from boarding seas. The location selected shall not impair access to accommodations or other spaces necessary to the safe working and navigation of the vessel and shall not be within 15 feet of ventilation terminals emitting warm air or hazardous vapors, such as from galleys and pumprooms, or within 10 feet of any unshielded radio apparatus or antenna lead.

(2) Magazine vans may be installed below decks in holds provided the hold location meets the location requirements for integral magazines. The cofferdam requirement of paragraph (a)(3) of this section is considered as fulfilled if the van is of steel construction. Holds so utilized shall not be used for stowage of other dangerous or hazardous materials covered by Part 146 of Subchapter N (Dangerous Cargoes) of this chapter. The stowage of other explosives or oxidizing materials in the same hold is permitted in accordance with the requirements of Part 146 of this chapter.

(c) *Magazine chests.* (1) Magazine chests shall be located on the weather decks in a position suitable for jettisoning the contents.

(2) Magazine chests shall be set off at least 4 inches from decks and deckhouse.

(3) Magazine chests shall not be located within 15 feet of ventilation terminals emitting warm air or hazardous vapors, such as from galleys and pumprooms.

(4) Magazine chests intended for the stowage of blasting caps, detonators, or boosters, in addition to the requirements in this paragraph, shall not be stowed within 10 feet of any unshielded radio apparatus or antenna leads.

§ 194.10-10 Integral magazine construction.

(a) Magazines shall be of permanent watertight construction. Bulkheads and decks, including the deck overhead, which are common with storerooms or workshops shall be of A-15 construction as defined by § 72.05-10 of Subchapter H (Passenger Vessels) of this chapter. Flush construction shall be employed where practicable.

(b) Where the shell or unsheathed weather decks form boundaries of the magazine spaces suitable approved incombustible thermal insulation shall be provided to prevent condensation of moisture.

(c) Where a tank top forms the magazine deck it shall be insulated with an approved deck covering to prevent condensation of moisture. Tank top manholes shall not be installed in magazines.

(d) Light fixtures shall be of an approved type equipped with globes and guards. Control of the lighting system shall be from a location external to the magazine. An indicator light shall be provided at the switch location to indicate when the lighting circuits are energized. Other electrical equipment and wiring shall not be installed within or pass through the magazine. Electrical cables enclosed in a watertight trunk are permitted.

(e) Piping, other than fresh or salt water service and drainage system, shall not be routed through magazines except as required for the magazines themselves. Other piping systems enclosed in a watertight trunk are permitted.

(f) Access doors for the magazine, or magazine groups, shall be of substantial watertight construction and be provided with means whereby they may be securely locked.

(g) Racks, stanchions, battens, and other devices shall be installed to provide rigid and safe stowage of explosives in their approved shipping containers with a minimum of dunnage.

(h) Decks shall be covered with a permanent nonslip nonspark covering.

§ 194.10-15 Magazine van construction.

(a) Vans shall be of substantial metal construction. Their interior shall be insulated with an approved incombustible insulation to the standards required for A-15 divisional bulkheads as prescribed in Part 72 of Subchapter H (Passenger Vessels) of this chapter. The interior shall be lined flush with incombustible materials.

(b) Lighting fixtures, if installed, shall be of an approved type equipped with globes and guards. All electrical installations shall meet the applicable requirements of Subchapter J (Electrical Engineering) of this chapter. The electrical terminals for connections to the ship's electrical system shall be of watertight construction and bear a label plate denoting the power requirement of the van.

(c) Access doors and ventilation closures shall be of watertight construction. Doors shall be provided with means whereby they may be securely locked.

(d) Vans shall be provided with suitable pads and clips for securing to the deck and for installation of wire rope sway braces.

(e) Vans shall bear a label plate stating light weight, gross weight and weight of explosives. Gross weight shall not exceed 250 pounds per square foot of deck area.

§ 194.10-20 Magazine chest construction.

(a) Magazine chests shall be of watertight metal construction with flush interior. The body and lid shall have a minimum thickness of ⅛ inch.

(b) Permanent sun shields shall be provided for sides and top including the lid. These shall have a minimum thickness of ⅛-inch aluminum or 16-gage steel. Side shields shall be offset from the body a distance of 1 inch. The top shield shall be offset a distance of 1½ inches. Sun shields may be omitted when chests are installed "on deck protected," shielded from direct exposure to the sun.

(c) Chests shall be limited to a gross capacity of 100 cubic feet.

(d) Chests shall be secured to the vessel's structure by means of permanently installed foundation clips or bolts or a combination thereof. Lashings will not be acceptable.

(e) Chests shall be provided with substantial hasps and staples for locking purposes.

§ 194.10-25 Ventilation.

(a) *Integral magazines.* (1) All integral magazines shall be provided with natural or mechanical ventilation. Design calculations shall be submitted demonstrating that the system has sufficient capacity to maintain the magazine temperature below 100° F. with 88° F. weather air. Mechanical cooling may be used where ventilation requirements exceed 1,500 cubic feet per minute.

(2) Ventilation systems shall be of watertight construction and shall serve no other space. Weather cowls shall be provided with a double layer

of wire screen of not less than ⅛-inch mesh. Metal watertight closures shall be provided for use when the ventilation system is not in operation. A 2-inch IPS bypass with check valve shall be provided in parallel with at least one of the ventilation closures to prevent pressure buildup.

(b) *Magazine vans.* (1) All magazine vans shall be provided with natural ventilation sufficient to maintain the inside air temperature below 130° F. with an assumed outside temperature of 115° F.

(2) Ventilation supply weather openings shall be located at least 6 feet above the deck. Exhaust terminals shall be located in the van overhead. Louvers or weather cowls with a double layer of wire screen of not less than ⅛-inch mesh shall be provided for protection of weather openings.

§ 194.10-30 Magazine sprinklers.

(a) *Sprinkler system required.* (1) A manual control, hydraulic control, or automatic sprinkler system shall be installed in each magazine or magazine group. The control valve shall generally be in accordance with Specification MIL-V-17501[1] insofar as materials and test fittings are concerned. All systems shall be remotely operable from a control station on the freeboard deck and manually operable at the control valve location.

(2) Where automatic systems are installed sprinkler heads shall be of the open head design so as to permit either manual or automatic operation.

(3) Sprinkler systems shall be designed in accordance with the requirements of Part 76 of Subchapter H (Passenger Vessels) of this chapter. Minimum total system capacity shall be based on 0.8 gallon per minute per square foot of overhead area.

(4) The normally required fire pumps may be used for magazine sprinkling purposes. However, the use of the magazine sprinkling system shall not interfere with the simultaneous use of the fire main system.

(b) *Magazine vans.* (1) A manual control sprinkler system shall be installed in each magazine van. The system shall be connected to the nearest fire main outlet by jumper hose. The hose shall be protected from physical damage by a grating or similar arrangement. The fire station valve shall serve as the sprinkler control valve.

(2) Sprinkler systems shall be designed in accordance with the requirements of Part 76 of Subchapter H (Passenger Vessels) of this chapter, except that the system capacity shall be sufficient to provide a coverage of 0.4 gallon per minute per square foot of overhead area.

§ 194.10-35 Labeling.

(a) Labeling shall be in 3-inch block type lettering. Letters shall be red or white, whichever provides the better contrast against the background. On small chests the labeling size may be reduced to that consistent with the size of the chest so that the inscription may be placed in its entirety on the side or top.

(b) The access door to magazines and magazine vans shall bear the inscription:

MAGAZINE

KEEP OPEN LIGHTS AND FIRE AWAY

KEEP DOOR CLOSED

REMOVE MATCHES AND LIGHTERS
PRIOR TO ENTERING

(c) Magazine chests shall be marked in a conspicuous location, preferably the top, with the inscription:

MAGAZINE CHEST

KEEP OPEN LIGHTS AND FIRE AWAY

(d) Magazine chests used for blasting caps, detonators, or boosters shall be marked in a conspicuous location with the inscription as appropriate:

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[1] This specification may be obtained from the Commanding Officer, Naval Supply Depot, 5801 Tabor Avenue, Philadelphia, Pa. 19120. This specification may also be examined at the Office of the Commandant (M), U.S. Coast Guard, Washington, D.C., or at the Office of any Coast Guard District Commander or Officer in Charge, Marine Inspection.

BLASTING CAP LOCKER

or

DETONATOR LOCKER

or

BOOSTER LOCKER

KEEP OPEN LIGHTS AND FIRE AWAY

(e) Magazine van, unless specifically approved as a portable magazine under provisions of § 146.09-6 of Subchapter N (Dangerous Cargoes) of this chapter, shall bear the additional statements on each side:

MAGAZINE

WARNING

DO NOT LIFT WITH CONTENTS

(f) Control locations for magazine sprinkler systems, in addition to the operating instructions required by § 76.20-20 of Subchapter H (Passenger Vessels) of this chapter shall bear the inscription:

MAGAZINE SPRINKLER CONTROL

Subpart 194.15—Chemistry Laboratory and Scientific Laboratory

§ 194.15-1 General.

(a) Chemical and scientific laboratories shall be considered service areas, and as such shall be subject to the applicable requirements of § 190.07-10(d).

(1) Incombustible materials shall be used, insofar as is reasonable and practicable, for permanently installed laboratory furnishings and equipment, such as desks, file and storage cabinets, waste paper baskets, work benches, chair frames, etc. Working surfaces where chemical stores are used shall be of incombustible material.

(2) Combustible materials may be used for other working surfaces and for temporary furnishings and equipment installed to facilitate a specific scientific mission.

(b) Storage of all equipment, materials, etc., and cleanliness shall be consistent with sound laboratory practices. All items shall be securely stowed.

(c) Provision shall be made for rapid removal of chemical spills and protection of the deck. In areas where chemicals will commonly be used, the deck shall be covered with a nonskid masonry or other suitably resistant material so fashioned that spillage will be contained and easily removed.

(d) The access doors to the laboratory shall bear the inscription "Chemical Laboratory", or "Scientific Laboratory", in lettering meeting requirements of § 194.10-35(a).

§ 194.15-3 Responsibility.

(a) With the knowledge and approval of the master, the senior member of the scientific party embarked may supervise the safety and operation of the chemical laboratory.

(b) The laboratory supervisor shall:

(1) Maintain the highest standards of safe working conditions.

(2) Provide safeguards against hazardous undertakings.

(3) Educate personnel working in the laboratory spaces to be alert for hazards.

§ 194.15-5 Ventilation.

(a) Operations, reactions or experiments which produce toxic, noxious or corrosive vapors shall be conducted under a suitably installed fume hood. The fume hood shall be equipped with an independent power exhaust ventilation system which terminates so as to prevent fumes from entering other portions of the vessel. The exhaust system of the fume hood shall be compatible with the ventilation system of the laboratory to prevent fumes from backing-up within the fume hood system. The terminals shall be equipped with acceptable flame screens.

(b) Chemical laboratories shall be equipped with power ventilation system of the exhaust type serving the entire laboratory for use in the event of spills or other emergencies. The system shall have a capacity sufficient to effect a complete change of air in not more than 4 minutes based upon the volume of the compartment.

(1) Power ventilation units shall have nonsparking impellers and shall not produce a source of vapor ignition in either the compartment or the ven-

tilation system associated with the compartment.

(2) The power ventilation system shall be interlocked with any other ventilation or air-conditioning system serving the laboratory in a manner to prevent the circulation of vapors to other spaces.

(3) This ventilation system shall be independent of any other ventilation system in the vessel. It shall serve no other space. It shall be of watertight construction.

(4) Ventilation exhaust outlets shall terminate more than 6 feet from any opening to the interior part of the vessel and from any possible source of vapor ignition.

(5) The control for the power ventilation system shall be conveniently located and marked in a manner to clearly identify the purpose of the control.

(c) Ventilation of air conditioning systems serving the chemical laboratory shall be designed so that air cannot be recirculated into an accommodation space.

§ 194.15-7 Fire protection.

(a) If a fixed or semiportable fire-fighting system is installed, it shall meet the applicable requirements in Part 193 of this subchapter. Other fire-fighting systems will be given special consideration by the Commandant.

(b) Portable fire extinguishers are required in accordance with Table 193.50-10(a) of this subchapter.

§ 194.15-9 Storage.

(a) Chemical stores mentioned in § 194.05-3 may be stored in small working quantities in the laboratory provided their containers are labeled in accordance with § 194.05-5(a).

(b) Chemical stores in greater than small laboratory working quantities shall be stored in approved containers in the chemical storeroom as prescribed in § 194.05-1(b).

(c) All material stored in any laboratory shall be securely stowed for sea with due consideration for chemical compatibility and safety standards.

§ 194.15-11 Flushing systems.

(a) Working spaces in which chemical stores are used shall be equipped with a fresh water supply shower.

(b) There shall be a provision for flushing away chemical spills.

§ 194.15-15 Chemicals other than compressed gases.

(a) Chemicals, including those listed in Part 146 of Subchapter N (Dangerous Cargoes) of this chapter, may be stored in small working quantities in the chemical laboratory.

§ 194.15-17 Compressed gases other than inert gases.

(a) When, in consideration for a particular operation, compressed gases are needed within the laboratory, the cylinders may be temporarily installed in the laboratory, provided no more than one (1) cylinder of each gas is in the laboratory simultaneously. When transporting compressed gas cylinders to, from, or within the vessel, the cylinder valves shall be capped or otherwise protected in accordance with § 146.24-15(d) of Subchapter N (Dangerous Cargoes) of this chapter.

(b) Cylinders temporarily installed in the laboratory shall be securely stowed for sea. Appropriate safety signs shall be displayed and safety precautions observed.

(c) Oxygen and acetylene cylinders for use in ship's maintenance shall not be stored in the laboratory.

(d) Systems providing gas for bunsen burners or similar semipermanent/permanent installations shall be installed in accordance with Subpart 195.03 of Part 195.

§ 194.15-19 Electrical.

(a) All electrical equipment located within 18 inches of the deck of the chemical laboratory shall be in accordance with the applicable requirements of Subchapter J (Electrical Engineering) of this chapter for Class I, Division 2, hazardous locations. Electrical equipment located 18 inches or more above the deck may be of a type suitable for wet or dry locations in accordance with Subchapter J.

Subpart 194.20—Chemical Stores and/or Storerooms

§ 194.20-1 General.

(a) The chemical storerooms shall be considered to be service areas and as such shall be subject to the applicable requirements of § 190.07-10(d).

(1) Installed equipment, such as shelves and cabinets, shall be constructed of incombustible materials.

(2) The access doors to the storeroom shall bear the inscription "Chemical Storeroom."

(b) Storage and cleanliness shall be consistent with good chemical stowage practices.

(c) The deck of the chemical storeroom shall be of a nonskid material suitably resistant to chemical spills. Provision shall be made for the containment and removal of chemical spills.

(d) Chemical reactions and experiments shall not be conducted in the chemical storeroom.

(e) A storeroom, when used as a chemical storeroom, shall be exclusively for the stowage of chemical stores.

(f) All doors shall open in the direction of escape.

(g) Movement of chemical stores to, or from, the storeroom shall be accomplished utilizing suitable, portable containers. In no event shall piping systems, or similar arrangements, be permitted for transfer of chemical stores between the storeroom and the area in which the chemical stores are to be used.

§ 194.20-3 Responsibility.

(a) With the knowledge and approval of the master the senior member of the scientific party embarked may supervise the safety and operation of the chemical storerooms.

(b) The chemical storeroom supervisor shall:

(1) Maintain the highest standards of safe working conditions.

(2) Provide safeguards against hazardous undertakings.

(3) Educate personnel working in, and near, the storeroom to be alert for hazards.

§ 194.20-5 Ventilation.

(a) Chemical storerooms shall be equipped with a power ventilation system of exhaust type. The system shall have a capacity sufficient to effect a complete change of air in not more than 4 minutes based upon the volume of the compartment.

(1) Power ventilation units shall have nonsparking impellers and shall not produce a source of vapor ignition in either the compartment or the ventilation system associated with the compartment.

(2) This ventilation system shall be independent of any other ventilation system. It shall serve no other space in the vessel. It shall be of watertight construction.

(3) Inlets to exhaust ducts shall be provided and located at points where concentration of vapors may be expected. Ventilation exhaust outlets shall terminate more than 6 feet from any opening to the interior part of the vessel and from any possible source of vapor ignition. Terminals shall be fitted with acceptable flame screens.

(4) The control for the power ventilation system shall be conveniently located and marked in a manner to clearly identify the purpose of the control.

(b) Provisions shall be made so that the chemical storeroom will be ventilated before it is entered. An Indicator shall be provided outside the space to show that ventilation is being provided. In addition, the storeroom shall be marked "Danger—Ventilate Before Entering."

§ 194.20-7 Fire protection.

(a) Each chemical storeroom shall be protected by a fixed automatic carbon dioxide extinguishing system installed in accordance with Subpart 193.15 of Part 193 of this subchapter.

(b) Portable fire extinguishers are required in accordance with Table 193.50-10(a) of this subchapter.

§ 194.20-9 Storage.

(a) Chemical stores shall be stored in the chemical storeroom as prescribed in § 194.05-1(b).

(b) All items stored in the storeroom shall be secured against shifting and with due consideration for chemical compatibility and safety standards.

(1) Items shall not be stowed on the deck.

(2) Shelving shall be so constructed as to provide a clear space of at least 4 inches between the bottom shelf and the deck.

§ 194.20-11 Flushing systems.

(a) Provision shall be made for flushing away chemical spills.

(b) If a drainage system is installed, it shall be separate from any other drainage system.

§ 194.20-15 Chemical stores other than compressed gases.

(a) Flammable liquids are excluded from the storeroom unless contained in properly marked and labeled metal safety cans not in excess of 5 gallons of each kind. Refer to Subpart 194.05 for applicable requirements governing quantities greater than 5 gallons.

(b) Combustible liquids in approved portable drums, barrels or containers not in excess of 55 gallons of each kind may be stored in the storeroom. Refer to Subpart 194.05 for applicable requirements governing quantities greater than 55 gallons.

(c) Containers when used for dispensing flammable and combustible liquids shall be equipped with automatic closing valves.

(d) Poisons listed in Part 146 of Subchapter N (Dangerous Cargoes) of this chapter may be stored in approved containers in the chemical storeroom.

(e) Explosives and oxidizing materials not for use in the chemical laboratory shall not be stored in the chemical storeroom.

(f) Chemical stores specifically mentioned in Part 146 of Subchapter N (Dangerous Cargoes) of this chapter may be carried in the chemical storeroom.

§ 194.20-17 Compressed gases.

(a) Nonflammable compressed gases (excluding oxygen) may be securely stowed in the storeroom: *Provided*, That no more than eight (8) cylinders total are stowed simultaneously in the same chemical storeroom.

(b) Flammable compressed gases and oxygen shall be stowed in accordance with Subpart 146.24 of Part 146 of Subchapter N (Dangerous Cargoes) of this chapter.

(c) Compressed gas cylinders shall have valve protection in accordance with § 146.24-15(d) of Subchapter N (Dangerous Cargoes) of this chapter, and shall be securely stowed in a vertical position in suitable racks.

§ 194.20-19 Piping and electrical requirements.

(a) Piping, electrical equipment, and wiring shall not be installed within or pass through a chemical storeroom except as required for the chemical storeroom itself.

(b) The electrical installation shall be in accordance with the applicable requirements of Subchapter J (Electrical Engineering) of this chapter for Class I, Division 1, Group C hazardous locations.

Subpart 194.90—Vessels Contracted for Prior to March 1, 1968

§ 194.90-1 Requirements.

(a) Vessels contracted for prior to March 1, 1968, shall meet the following requirements:

(1) Existing arrangements, materials, and facilities previously approved but not meeting the applicable requirements of Subparts 194.05 through 194.20 may be continued in service so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs, alterations, and replacements may be permitted to the same standards as the original design: *Provided*, That in no case will a greater departure from the standards of Subparts 194.05 through 194.20 be permitted than presently exists.

(2) All new installations, major alterations, and major replacements shall meet the applicable requirements in this part for new vessels.

(3) The general requirements of Subparts 194.05 through 194.20 shall apply unless in the opinion of the Officer in Charge, Marine Inspection, it is unreasonable or impracticable, or the arrangement or construction of the vessel makes it unnecessary.

PART 195—VESSEL CONTROL AND MISCELLANEOUS SYSTEMS AND EQUIPMENT

Subpart 195.01—Application

Sec.
195.01-1 General.

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195.35-90 Vessels contracted for prior to March 1, 1968.

AUTHORITY: R.S. 4405, as amended, 4462, as amended, sec. 5, 79 Stat. 424; 46 U.S.C. 375, 416, 445. Interpret or apply R.S. 4417, as amended, 4418, as amended, 4453, as amended, 4488, as amended, sec. 10, 35 Stat. 428, as amended, 41 Stat. 305, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 6(b)(1), 80 Stat. 938; 46 U.S.C. 391, 392, 435, 481, 395, 363, 367, 49 U.S.C. 1655(b), E.O. 11239; 3 CFR, 1964-1965 Comp.; 49 CFR 1.4 (a)(2), unless otherwise noted.

SOURCE: CGFR 67-83, 33 FR 1156, Jan. 27, 1968, unless otherwise noted.

Subpart 195.01—Application

§ 195.01-1 General.

(a) The provisions of this part shall apply to all vessels except as specifically noted in this part.

Subpart 195.03—Marine Engineering Systems

§ 195.03-1 Installation and details.

(a) The installation of all systems of a marine engineering nature, together with the details of design, construction, and installation, shall be in accordance with the requirements of Subchapter F (Marine Engineering) of this chapter. Systems of this type include the following:

Steering Systems.
Bilge and Ballast Systems.
Tank Vent and Sounding Systems.
Overboard Discharges and Shell Connections.
Pipe and Pressure Systems.
Liquefied Petroleum Gas Systems.

Subpart 195.05—Electrical Engineering and Interior Communications Systems

§ 195.05-1 Installation and details.

(a) The installation of all systems of an electrical engineering or interior communication nature, together with the details of design, construction, and installation shall be in accordance with the requirements of Subchapter J (Electrical Engineering) of this chapter. Systems of this type include the following:

Ship's Service Generating Systems.
Ship's Service Power Distribution Systems.
Ship's Lighting Systems.
Electric Propulsion and Propulsion Control Systems.
Emergency Lighting and Power Systems.
Electric Lifeboat Winch Systems.
Electric Steering Gear and Steering Control Systems.
Fire Detecting and Alarm Systems.
Sound Powered Telephone and Voice Tube Systems.
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Navigation Lights Systems.
Daylight Signaling Lights.
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Subpart 195.07—Anchors, Chains, and Hawsers

§ 195.07-1 Application.

(a) The provisions of this subpart, with the exception of § 195.07-90, shall apply to all vessels other than unmanned barges, contracted for on or after March 1, 1968.

(b) Vessels other than unmanned barges contracted for prior to March 1, 1968 shall meet the requirements of § 195.07-90.

§ 195.07-5 Ocean, coastwise, or Great Lakes service.

(a) Vessels in ocean, coastwise, or Great Lakes service shall be fitted with anchors, chains, and hawsers which shall be in general agreement with the standards established by the American Bureau of Shipping, see Subpart 188.35 of Part 188 of this subchapter.

§ 195.07-10 Lakes, bays, and sounds, or river service.

(a) Vessels in lakes, bays, and sounds, or river service shall be fitted with such ground tackle and hawsers as deemed necessary by the Officer in Charge, Marine Inspection, depending upon the size of the vessel and the waters on which it operates.

§ 195.07-90 Vessels contracted for prior to March 1, 1968.

(a) Vessels contracted for prior to March 1, 1968, shall meet the following requirements:

(1) Existing arrangements, materials, installations, and facilities previously accepted or approved shall be considered satisfactory for the same service so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. If the service of the vessel is changed, the suitability of the equipment will be established by the Officer in Charge, Marine Inspection.

(2) Minor repairs, alterations and replacements may be permitted to the same standards as the original installations. However, all new installations, major alterations, or major replacements shall meet the applicable requirements in this subpart for new vessels.

Subpart 195.09—Scientific Equipment

AUTHORITY: R.S. 4429, as amended, 4433, as amended, 4472, as amended; 46 U.S.C. 407, 411, 170.

§ 195.09-1 Application.

(a) The provisions of this subpart shall apply to all vessels.

§ 195.09-5 General.

(a) All scientific equipment shall be designed to good commercial standards for such appliances, where applicable. Their electrical and pressure connections to the ship's supply shall be designed to marine standards.

(b) It shall be the responsibility of the owner to assure that the scientific equipment and their electrical or pressure connections to the ship's supply are maintained in such a manner as to be free of personnel hazards which may be caused by shock, temperature extremes, and moving parts.

Subpart 195.11—Portable Vans and Tanks

AUTHORITY: R.S. 4472, as amended, 46 U.S.C. 170.

§ 195.11-1 Application.

(a) The provisions of this subpart shall apply to all vessels.

§ 195.11-5 Scope.

(a) The provisions in this subpart contain requirements for the design, construction, and stowage of portable vans, or tanks, which may be carried on board vessels. As used in this subpart, portable vans and tanks, are intended to include those temporary structures which may be carried aboard a vessel for a limited period of time and which are not permanently attached to the vessel.

(b) Special consideration may be given to the approval of portable structures which have been used for other purposes prior to proposed use on these vessels.

(c) As used in this subpart, portable vans, magazines, chests, etc., are intended to include those temporary structures which may be carried aboard a vessel for a limited period of time and which are not permanently attached to the vessel. The use, arrangement, and handling of such portable structures shall be approved by the Officer in Charge, Marine Inspection, prior to placement on board the vessel.

§ 195.11-10 Design and construction of portable vans.

(a) The design and material selection shall incorporate consideration of forces and environmental conditions to which the structure, attachments, and attachment points will be exposed.

(b) Steel, aluminum or other substantial material suitable for a marine environment may be used for construction of the basic van box.

(c) Accommodation vans are those intended to provide increased accommodation and related spaces of a temporary nature aboard a vessel. They shall, insofar as is reasonable and practicable, meet the applicable requirements of this subchapter for means of escape, arrangement, interior construction, and electrical installations.

(d) Power vans are those outfitted with electrical power generating machinery or batteries providing electrical power for other vans or to scientific equipment. They shall insofar as is reasonable and practicable meet the applicable requirements of this subchapter for pressure piping, electrical, fire extinguishing and ventilation systems.

(e) Vans for the use or storage of chemical stores as defined in § 194.05-3 of this subchapter shall be constructed and outfitted in accordance with the applicable requirements of this subchapter.

(f) Vans containing scientific equipment are considered as within the definition of § 188.10-67 of this subchapter.

§ 195.11-15 Plan approval and inspection.

(a) Accommodation, power and chemical stores vans are subject to normal plan submission procedures of 189.55 and to initial construction inspection. They shall also be subject to reinspection at two year intervals.

(b) Vans which have not undergone plan review and initial inspection may be accepted on a single voyage basis by the OCMI provided that they are in good condition and are free of hazards to personnel.

§ 195.11-20 Marking and label plate.

(a) All vans shall be provided with a label plate stating light weight, gross weight, and power requirements where applicable.

(b) For vans subject to inspection label plates shall provide space for the date of initial inspection, the marine inspector's initials, and stamp. Space shall also be provided for the reinspection stamping.

§ 195.11-25 Loading and stowage.

(a) Vans required to be inspected and bearing a current inspection stamp may be accepted for loading and stowage by the master of the vessel who shall insure that the van is in good condition.

(1) Vans containing scientific equipment and nonhazardous stores may be accepted by the master of the vessel subject to his inspection to determine that electrical and pressure connections are in good condition and adequate for the service intended.

(b) The master shall insure that all vans are securely stowed and attached to the vessel to prevent shifting in a seaway. Portable vans to be occupied during the vessel's operation shall be securely attached to the vessel by welding, bolting, or equivalent means.

(c) Vans shall be located with due regard to access and to prevent recirculation of the discharge from the exhaust systems of the vessel.

(d) The loading of vans shall be in accordance with the stability requirements of the vessel.

(e) Prior to a vessel's departure, an entry shall be made in the official logbook for each portable van placed on board that such van and its stowage are in compliance with the applicable requirements in this subchapter.

§ 195.11-30 Portable tanks.

(a) All portable tanks, whether hazardous or nonhazardous commodities, shall be loaded and stowed in accordance with the stability requirements of the vessel.

(b) Portable tanks for flammable or combustible liquids in bulk (see § 188.05-30(b) of this subchapter) shall not be carried on vessels.

(c) Portable tanks containing other hazardous commodities shall be in accordance with the requirements of Part 146 of this chapter.

Subpart 195.13—Radiotelegraph and Radiotelephone

§ 195.13-1 Required by Federal Communications Commission.

(a) Radiotelegraph and radiotelephone installations are required on certain vessels. Details of the application of this requirement as well as details of the installation shall be as required by the statutes and regulations under the jurisdiction of the Federal Communications Commission.

(b) All mechanically propelled vessels on an international voyage which are required to carry a radiotelegraph or radio telephone installation in accordance with Chapter IV of the Safety of Life at Sea Convention, 1960, must carry the International Code of Signals.

[CGFR 67-83, 33 FR 1156, Jan. 27, 1968, as amended by CGD 75-074, 42 FR 5964, Jan. 31, 1977]

Subpart 195.15—Radio Direction Finder

§ 195.15-1 When required.

(a) All mechanically propelled vessels of 1,600 gross tons and over, in ocean service or on an international voyage, shall be fitted with a radio direction finder. Details of the installation shall be as required by the statutes and regulations under the jurisdiction of the Federal Communications Commission.

Subpart 195.17—Radar

§ 195.17-1 When required.

All mechanically propelled vessels of 1,600 gross tons and over in ocean or coastwise service must be fitted with a marine radar system for surface navigation. Facilities for plotting radar readings must be provided on the bridge.

[CGD 75-074, 42 FR 5965, Jan. 31, 1977]

Subpart 195.19—Magnetic Compass and Gyrocompass

§ 195.19-1 When required.

(a) All mechanically propelled vessels in ocean or coastwise service must be fitted with a magnetic compass.

(b) All mechanically propelled vessels of 1,600 gross tons and over in ocean or coastwise service must be fitted with a gyrocompass in addition to the magnetic compass.

(c) Each vessel must have an illuminated repeater for the gyrocompass required under paragraph (b) that is at the main steering stand unless the gyrocompass is illuminated and is at the main steering stand.

[CGD 75-074, 42 FR 5965, Jan. 31, 1977]

Subpart 195.20—Navigation Lights and Shapes, Signal Lights, Whistles, Foghorns, Fog Bells, and Gongs

§ 195.20-1 Vessels operating on waters governed by the 72 COLREGS.

Each vessel, including a motorboat, operating on waters governed by the International Regulations For Preventing Collisions at Sea, 1972 (72 COLREGS) must be equipped with navigation lights and shapes, whistles, bells, foghorns, fog bells, and gongs as required by those international rules.

(46 U.S.C. 526p; Convention on the International Regulations for Preventing Collisions at Sea, 1972 (as rectified); E.O. 11964 (42 FR 4327); 49 CFR 1.46(b))

[42 FR 35797, July 11, 1977; CGD 77-126, 42 FR 51607, Sept. 29, 1977]

§ 195.20-10 Vessels operating on waters governed by the Inland, Great Lakes, or Western Rivers Rules of the Road.

(a) All vessels (other than motorboats) operating on waters governed by the Inland, Great Lakes, or Western Rivers Rules of the Road (33 U.S.C. 154-232, 241-295, 301-355) shall be equipped with the navigation lights and shapes, signal lights, whistles, foghorns, fog bells, and gongs as required by the Rules of the Road applicable to the waters on which the vessel is being navigated. For motorboats see the applicable requirements described in Part 25 of Subchapter C (Uninspected Vessels) of this chapter.

§ 195.20-15 Light screens.

Light screens required by the applicable Rules of the Road for port and starboard side lights shall be painted with a flat black paint and shall project not less than three (3) feet forward of the center of the light source.

(Convention on the International Regulations for Preventing Collisions at Sea, 1972 (as rectified); E.O. 11964 (42 FR 4327); Pub. L. 95-75, 91 Stat. 308; 49 CFR 1.46(b))

[CGFR 68-32, 33 FR 5729, Apr. 12, 1968, as amended by CGD 77-052, 42 FR 56332, Oct. 25, 1977]

Subpart 195.27—Sounding Equipment

§ 195.27-1 When required.

(a) All mechanically propelled vessels of 500 gross tons and over shall be fitted with an efficient electronic deep-sea sounding apparatus and another independent means of obtaining deep-sea soundings, which may be a deep-sea hand lead.

[CGFR 67-83, 33 FR 1156, Jan. 27, 1968, as amended by CGD 75-074, 42 FR 5965, Jan. 31, 1977]

Subpart 195.30—Protection From Refrigerants

§ 195.30-1 Application.

(a) The provisions of this subpart, with the exception of § 195.30-90, shall apply to all vessels contracted for on or after March 1, 1968.

(b) Vessels contracted for prior to March 1, 1968, shall meet the requirements of § 195.30-90.

§ 195.30-5 General.

(a) All self-contained breathing apparatus and gas masks shall be of an approved type, constructed in accordance with Subpart 160.011 of Part 160 of Subchapter Q (Specifications) of this chapter.

(b) All equipment shall be maintained in an operative condition, and it shall be the responsibility of the master and chief engineer to ascertain that a sufficient number of the crew are familiar with the operation of the equipment.

§ 195.30-15 Refrigeration masks.

(a) On all vessels equipped with refrigeration, other than small unit type refrigeration of not more than 20 cubic feet capacity, a gas mask, suitable for protection against each refrigerant used, or a self-contained breathing apparatus shall be provided. The refrigeration gas mask shall be stowed convenient to, but outside of the spaces containing the refrigeration equipment.

(b) A complete recharge shall be carried for each gas mask and self-contained breathing apparatus. The spare charge shall be stowed in the same location as the equipment it is to reactivate.

§ 195.30-90 Vessels contracted for prior to March 1, 1968.

(a) Vessels contracted for prior to March 1, 1968, shall meet the following requirements:

(1) The requirements of §§ 195.30-5 and 195.30-15 shall be complied with insofar as the number of items of equipment and the method of stowage of the equipment is concerned unless it can be shown to the satisfaction of the Officer in Charge, Marine Inspection, that other arrangements provide adequate protection.

(2) Existing items of equipment previously approved, but not meeting the applicable specifications set forth in § 195.30-5, may be continued in service so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection, but all new installations or replacements shall meet the applicable specifications or requirements in this subpart for new vessels.

Subpart 195.35—Fireman's Outfit

§ 195.35-1 Application.

(a) The provisions of this subpart, with the exception of § 195.35-90, shall apply to all vessels other than unmanned barges contracted for on or after March 1, 1968.

(b) All vessels other than unmanned barges contracted for prior to March 1, 1968, shall meet the requirements in § 195.35-90.

(c) All unmanned barges are exempted from the requirements in this subpart. However, if such barges carry on board a fireman's outfit, then such equipment shall be in accordance with the requirements in this subpart for manned barges.

§ 195.35-5 General.

(a) All flame safety lamps shall be of an approved type, constructed in accordance with Subpart 160.016 of Part 160 of Subchapter Q (Specifications) of this chapter.

(b) All self-contained breathing apparatus shall be of an approved type, constructed in accordance with Subpart 160.011 of Part 160 of Subchapter Q (Specifications) of this chapter.

(c) Flashlights shall be of a type that is—

(1) Three-cell explosion-proof;

(2) Listed by Underwriter's Laboratories, Inc. and bearing its label; and

(3) Suitable for the hazardous atmosphere in which it is used.

(d) All lifelines shall be of steel or bronze wire rope. Steel wire rope shall be either inherently corrosion-resistant, or made so by galvanizing or tinning. Each end shall be fitted with a hook with keeper having throat opening which can be readily slipped over a ⅝-inch bolt. The total length of the lifeline shall be dependent upon the size and arrangement of the vessel, and more than one line may be hooked together to achieve the necessary length. No individual length of lifeline may be less than 50 feet in length. The assembled lifeline shall have a minimum breaking strength of 1,500 pounds.

(e) All equipment shall be maintained in an operative condition, and it shall be the responsibility of the master and chief engineer to ascertain that a sufficient number of the crew are familiar with the operation of the equipment.

(f) Boots and gloves shall be of rubber or other electrically nonconducting material.

(g) The helmet shall provide effective protection against impact.

(h) Protective clothing shall be of material that will protect the skin from the heat of fire and burns from scalding steam. The outer surface shall be water resistant.

(R.S. 4405, as amended (46 U.S.C. 375), R.S. 4462, as amended (46 U.S.C. 416), Sec. 6(b)(1), 80 Stat. 937 (49 U.S.C. 1655(b)(1)); 49 CFR 1.46(b))

[CGFR 67-83, 33 FR 1156, Jan. 27, 1968, as amended by CGFR 69-72, 34 FR 17504, Oct. 29, 1969; CGD 73-247R, 38 FR 33475, Dec. 5, 1973]

§ 195.35-10 Fireman's outfit.

(a) A fireman's outfit shall consist of one self-contained breathing apparatus with lifeline attached, one flashlight, one flame safety lamp, a rigid helmet, boots and gloves, protective clothing, and one fire ax.

(b) Every vessel shall carry at least two firemen's outfits. The fireman's outfits must be stored in widely separated, accessible locations.

[CGFR 69-72, 34 FR 17504, Oct. 29, 1969, as amended by CGD 75-074, 42 FR 5965, Jan. 31, 1977]

§ 195.35-15 Stowage.

(a) Equipment shall be stowed in a convenient, accessible location as determined by the master, for use in case of emergency.

§ 195.35-20 Spare charges.

(a) A complete recharge shall be carried for each self-contained breathing apparatus, and a complete set of spare batteries shall be carried for each flashlight. The spares shall be stowed in the same location as the equipment it is to reactivate.

§ 195.35-90 Vessels contracted for prior to March 1, 1968.

(a) Vessels contracted for prior to March 1, 1968, shall meet the following requirements:

(1) The requirements of §§ 195.35-5 through 195.35-20 shall be complied with insofar as the number of items of equipment and the method of stowage of the equipment is concerned.

(2) Existing items of equipment previously approved, but not meeting the applicable specifications set forth in § 195.35-5, may be continued in service so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection, but all new installations or replacements shall meet the applicable specifications or requirements for new vessels.

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AUTHORITY: R.S. 4405, as amended, 4462, as amended, sec. 5, 79 Stat. 424; 46 U.S.C. 375, 416, 445. Interpret or apply R.S. 4417, as amended, 4418, as amended, 4453, as amended, sec. 10, 35 Stat. 428, as amended, 41 Stat. 305, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 6(b)(1), 80 Stat. 838; 46 U.S.C. 391, 392, 435, 395, 363, 367, 49 U.S.C. 1655(b), E.O. 11239; 3 CFR, 1964-1965 Comp.; 49 CFR 1.4(a)(2), unless otherwise noted.

SOURCE: CGFR 67-83, 33 FR 1158, Jan. 27, 1968, unless otherwise noted.

Subpart 196.01—Application

§ 196.01-1 General.

(a) The provisions of this part shall apply to all vessels except as specifically noted in this part.

Subpart 196.03—Statutory Penalties

§ 196.03-1 General.

(a) The marine safety and criminal statutes provide penalties for the violation of the applicable provisions of this subchapter, which penalties, depending upon the gravity of the violation, are as follows:

(1) Assessment and collection of civil monetary penalty.

(2) Criminal prosecution where no loss of life results.

(3) Criminal prosecution for manslaughter where loss of life results from violation of statute or regulation or from misconduct, negligence, or inattention to duty.

(4) Libel against vessel.

(b) In addition to the foregoing, any licensed or certificated personnel committing an act of misbehavior, negligence, unskillfulness, endangering life, violation of marine safety statutes or regulations or requirements thereunder, and incompetency shall be subject to proceedings under the provisions of 46 U.S.C. 239 and regulations thereunder (Part 137 of this chapter) with respect to suspension or revocation of license or certificate.

Subpart 196.05—Notice to Mariners and Aids to Navigation

§ 196.05-1 Duty of officers.

(a) Licensed deck officers are required to acquaint themselves with the latest information published by the Coast Guard and the U.S. Navy regarding aids to navigation. Neglect to do so is evidence of neglect of duty. It is desirable that all vessels have available in the pilothouse for convenient reference at all times a file of the applicable Notice to Mariners.

(b) Weekly Notices to Mariners (Great Lakes Edition) as published by the Commander, 9th Coast Guard District, contains announcements and information on changes in aids to navigation and other marine information affecting the safety of navigation on the Great Lakes. These notices may be obtained free of charge, by making application to Commander, 9th Coast Guard District.

(c) Weekly Notices to Mariners (worldwide coverage) are prepared jointly by the U.S. Naval Oceanographic Office, the U.S. Coast and Geodetic Survey and the U.S. Coast Guard. They include changes in aids to navigation in assembled form for the 1st, 3d, 5th, 7th, Greater Antilles Section, 8th, 11th, 12th, 13th, 14th, and 17th Coast Guard Districts. Foreign marine information is also included in these notices. These notices are available without charge from the U.S. Naval Oceanographic Office, Washington, D.C. 20390, Branch Oceanographic Offices, U.S. Collector of Customs of the major seaports in the United States and are also on file in the U.S. Consulates where they may be inspected.

[CGFR 67-83, 33 FR 1158, Jan. 27, 1968, as amended by CGFR 68-32, 33 FR 5729, Apr. 12, 1968]

§ 196.05-5 Charts and nautical publications.

As appropriate for the intended voyage, all vessels except barges, and vessels operating exclusively on rivers, must carry adequate and up-to-date—

(a) Charts;

(b) Sailing directions;

(c) Coast pilots;

(d) Light lists;

(e) Notices to mariners;

(f) Tide tables;

(g) Current tables; and

(h) All other nautical publications necessary.[1]

[CGD 75-074, 42 FR 5965, Jan. 31, 1977]

Subpart 196.07—Notice of Casualty and Voyage Records

AUTHORITY: R.S. 4450, as amended, 4453, as amended, secs. 13, 17, 54 Stat. 165, 166, as amended, sec. 10, 18 Stat. 128, as amended; 46 U.S.C. 239, 435, 526*l*(c), 526p, 33 U.S.C. 361.

§ 196.07-1 Notice of casualty.

(a) The owner, agent, master, or person in charge of a vessel involved in a marine casualty shall give notice as soon as possible to the nearest Coast Guard Marine Safety or Marine Inspection Office whenever the casualty involves any of the following:

(1) All accidental groundings and any intentional grounding which also meets any of the other reporting criteria or creates a hazard to navigation, the environment, or the safety of the vessel;

(2) Loss of main propulsion or primary steering, or any associated component or control system, the loss of which causes a reduction of the maneuvering capabilities of the vessel. Loss means that systems, component parts, sub-systems, or control systems do not perform the specified or required function;

(3) An occurrence materially and adversely affecting the vessel's seaworthiness or fitness for service or route, including but not limited to fire, flooding, or failure or damage to fixed fire extinguishing systems, lifesaving equipment, auxiliary power generating equipment, or bilge pumping systems;

(4) Loss of life;

(5) Injury causing a person to remain incapacitated for a period in excess of 72 hours;

(6) An occurrence not meeting any of the above criteria but resulting in damage to property in excess of $25,000.00. Damage includes the cost necessary to restore the property to the service condition which existed prior to the casualty, including the cost of salvage, gas freeing, and dry dock. It does not include such items as demurrage.

(b) The master of any nuclear vessel shall immediately inform the Commandant in the event of any accident or casualty to the nuclear vessel which may lead to an environmental hazard. The master shall also immediately inform the competent governmental authority of the country in whose waters the vessel may be in, or whose waters the vessel approaches in a damaged condition.

[CGFR 67-83, 33 FR 1158, Jan. 27, 1968, as amended by CGD 76-170, 45 FR 77444, Nov. 24, 1980]

§ 196.07-5 Information required.

The notice required by § 196.07-1 must include the name and official number of the vessel involved, the name of the vessel's owner or agent, the nature and circumstances of the casualty, the locality in which it occurred, the nature and extent of injury to persons, and the damage to property.

[CGD 76-170, 45 FR 77445, Nov. 24, 1980]

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[1] For United States vessels in or on the navigable waters of the United States, see 33 CFR 164.33.

§ 196.07-10 Written report.

(a) In addition to the notice required by § 196.07-1 the person in charge of the vessel shall, as soon as possible, report in writing and in person to the Officer in Charge, Marine Inspection, at the port in which the casualty occurred or nearest the port of first arrival. However, if due to the distance it may be inconvenient to report in person, it may be done in writing only. The written report required for personal accident shall be made on Form CG-924E and submitted for each individual injured and each loss of life. For all other vessel casualties the written report shall be made on Form CG-2692.

(b) If filed without delay, the Form CG-924E or CG-2692 may also provide the notice required by § 196.07-1.

§ 196.07-15 Retention of records.

(a) The owner, agent master, or other person in charge of any vessel involved in a marine casualty shall retain such voyage records of the vessel as are maintained by the vessel, such as both rough and smooth deck and engineroom logs, bell books, navigation charts, navigation work books, compass deviation cards, gyrocompass records, stowage plans, record of draft, aids to mariners, radiograms sent and received, the radio log, and crew and passenger lists. The owner, agent, master, or other officer in charge, shall make these records available to a duly authorized Coast Guard officer or employee for examination upon request.

§ 196.07-20 Aids to Navigation.

(a) Whenever a vessel collides with a lightship, buoy, or other aid to navigation under the jurisdiction of the Coast Guard, or is connected with any such collision, it shall be the duty of the person in charge of such vessel to report the accident to the nearest Officer in Charge, Marine Inspection. No report on Form CG-2692 is required unless any of the results listed in § 196.07-1(a) occur.

§ 196.07-25 Reports when state of war exists.

(a) During the period when a state of war exists between the United States and any foreign nation, communications in regard to casualties or accidents shall be handled with caution and the reports shall not be made by radio or by telegram.

Subpart 196.13—Station Bills

Authority: R.S. 4488, as amended; 46 U.S.C. 481.

§ 196.13-1 Application.

(a) The provisions of this subpart shall apply to all manned vessels.

§ 196.13-5 Master's responsibility.

(a) A station bill (muster list) shall be prepared by the master of the vessel who shall be responsible to sign such station bill and to ascertain that it is duly posted in conspicuous locations in the vessel, particularly in the quarters of crew-members and scientific personnel, before the vessel sails.

§ 196.13-10 Duties of crew and scientific personnel.

(a) The station bill shall set forth the special duties and duty station of each member of the crew and scientific personnel for the various emergencies. The duties shall, as far as possible, be comparable with the regular work of the individual. The duties shall in general include the following, and in addition such other duties shall be assigned as are necessary in the case of the particular vessel for the proper handling of the particular emergency:

(1) The closing of airports, watertight doors, scuppers, sanitary, and other discharges which lead through the vessel's hull below the margin line, etc., the stopping of fans and ventilating systems, and the operation of all safety equipment.

(2) The preparation and launching of lifeboats and liferafts.

(3) The extinction of fire.

(4) The custody of the portable radio apparatus required by Subpart 192.55 of Part 192 of this subchapter.

§ 196.13-15 Emergency signals.

(a) *General.* The station bill shall set forth the various signals to be used for the calling of the crew to their stations and for giving instructions while at their stations. These signals shall be as set forth in this section.

(b) *Fire alarm stations.* (1) The fire alarm signal shall be a continuous blast of the whistle for a period of not less than 10 seconds supplemented by the continuous ringing of the general alarm bells for not less than 10 seconds.

(2) For dismissal from fire alarm stations, the general alarm shall be sounded three times supplemented by three short blasts of the whistle.

(c) *Boat stations or boat drills.* (1) The signal for boat stations or boat drill shall be a succession of more than six short blasts followed by one long blast of the whistle supplemented by a comparable signal on the general alarm bells.

(2) Where whistle signals are used for handling the lifeboats, they shall be as follows:

(i) To lower lifeboats, one short blast.

(ii) To stop lowering the lifeboats, two shorts blasts.

(3) For dismissal from boat stations, there shall be three short blasts of the whistle.

(d) The master of any vessel may establish such other emergency signals, in addition to the above, as will provide that all officers, crew, and passengers will have positive and certain notice of the existing emergency.

§ 196.13-20 Master to instruct crew and scientific personnel.

(a) The master shall conduct such drill and give such instructions as are necessary to insure that all hands are familiar with their duties as specified in the station bill.

Subpart 196.14—Manning of Lifeboats and Liferafts

AUTHORITY: R.S. 4488, as amended; 46 U.S.C. 481.

§ 196.14-1 Application.

(a) The provisions of this subpart shall apply to all vessels equipped with lifeboats and/or liferafts.

§ 196.14-5 Person in command of lifeboat or liferaft.

(a) For vessels in ocean service, a licensed deck officer, an able seaman, or a certificated lifeboatman shall be placed in charge of each lifeboat or liferaft. When two or more certificated lifeboatmen are required by Table 196.14-10(a) a second in command shall also be appointed, which person shall be either a licensed deck officer, an able seaman or a certificated lifeboatman.

(b) For vessels in services other than ocean service, the master shall appoint a person in command of each lifeboat and each liferaft. Except for vessels in river service, this person in command shall be either a licensed deck officer, an able seaman, or a certificated lifeboatman.

(c) The person in charge of each lifeboat or liferaft shall have a list of its crew, and shall see that the persons under his orders are acquainted with their several duties.

§ 196.14-10 Certificated lifeboatmen.

(a) Except for vessels in river service, there shall be for each lifeboat and each liferaft a number of certificated lifeboatmen equal to that specified in Table 196.14-10(a): *Provided,* That vessels required to carry sufficient lifeboats on each side to accommodate all persons on board need only carry the certificated lifeboatmen required for the manning of the lifeboats on one side.

TABLE 196.14-10(a)

Prescribed complement of lifeboat or liferaft		Minimum number of lifeboatmen	
Over	Not over	Ocean service	All services other than ocean[1]
	25	1	1
25	40	2	2
40	60	3	3
60	85	4	4
85	110	5	5
110		6	6

[1] Certificated lifeboatmen are not required on vessels in river service.

(b) The allocation of the certificated lifeboatmen to each lifeboat and each liferaft shall be at the discretion of the master according to the circumstances.

§ 196.14-15 Motor-propelled lifeboat.

(a) The master shall assign to each motor-propelled lifeboat a man capable of working the motor.

§ 196.14-20 Lifeboat carrying a radiotelegraph and/or searchlight.

(a) The master shall assign to each lifeboat carrying a radiotelegraph and/or searchlight a man capable of operating such equipment.

Subpart 196.15—Test, Drills, and Inspections

AUTHORITY: R.S. 4488, as amended; 46 U.S.C. 481.

§ 196.15-1 Application.

(a) The provisions of this subpart shall apply to all vessels.

§ 196.15-3 Steering gear, whistle, and means of communication.

(a) On all vessels making a voyage of more than 48 hours duration, the entire steering gear, the whistle, and the means of communication between the bridge or pilothouse and engineroom shall be examined and tested by an officer of the vessel within a period of not more than 12 hours prior to departure. On all other vessels similar examinations and tests shall be made at least once in every week.

(b) The date of the test and the condition of the equipment shall be noted in the official logbook.

§ 196.15-5 Drafts.

(a) The master of every vessel on an ocean, coastwise, or Great Lakes voyage shall enter the drafts of the vessel, forward and aft, in the official logbook when leaving port.

(b) On vessels subject to the requirements of Subchapter E (Load Lines) of this chapter at the time of departure from port on an ocean, coastwise, or Great Lakes voyage, the master shall insert in the official logbook a statement of the position of the loadline mark, port, and starboard, in relation to the surface of the water in which the vessel is then floating.

(1) When an allowance for draft is made for density of the water in which the vessel is floating, this density is to be noted in the official logbook.

§ 196.15-10 Sanitation.

(a) It shall be the duty of the master and chief engineer to see that the vessel, and, in particular, the quarters are in a clean and sanitary condition. The chief engineer shall be responsible only for the sanitary condition of the engineering department.

§ 196.15-15 Examination of boilers and machinery.

(a) It shall be the duty of the chief engineer when he assumes charge of the boilers and machinery of a vessel to examine them thoroughly. If any parts thereof are in unsatisfactory condition, or if the safety-valve seals are broken, the fact shall immediately be reported to the master, owner, or agent, and the Officer in Charge, Marine Inspection.

§ 196.15-20 Hatches and other openings.

(a) It shall be the responsibility of the master to assure himself that all exposed hatches and other openings in the hull of his vessel are closed, made properly watertight by the use of tarpaulins, gaskets or similar devices, and in all respects properly secured for sea before leaving protected waters.

(b) The openings to which this section applies are as follows:

(1) Exposed hatches.

(2) Gangway and other ports fitted below the freeboard deck.

(3) Port lights that are not accessible during navigation, including the dead lights for such port lights.

(c) The master at his discretion may permit hatches or other openings to remain uncovered or open, or to be uncovered or opened for reasonable purposes such as ship's maintenance while the vessel is being navigated: *Provided*, That in his opinion existing conditions warrant such action.

(d) In the event the master employs the discretionary provisions of this section after leaving port he shall cause appropriate entries to be made in the official log or equivalent thereof setting forth the time of uncovering, opening, closing or covering of the hatches or other openings to which this section applies and the circumstances warranting the action taken.

(e) The discretionary provisions of this section shall not relieve the master of his responsibility for the safety of his vessel, equipment or persons on board.

§ 196.15-25 Line-throwing appliances.

(a) On vessels fitted with a line-throwing appliance, it shall be the duty of the master to drill his crew in the use of such appliance, and require it to be fired at least once in every 3 months. Each drill shall be recorded in the vessel's official logbook. The service line shall not be used for drill purpose. The drill shall be conducted as follows:

(1) For impulse-projected rocket type, by actually firing the rocket with any flexible line of proper size and length, suitably faked or laid out.

(2) For shoulder gun type, by actually firing, using the regular cartridge and projectile with any flexible line of proper size and length, suitably faked or laid out.

(3) For Lyle gun type, by actually firing, using 2½ ounces of powder, the regular service projectile with any flexible line of proper size and length suitably faked or laid out.

§ 196.15-30 Emergency lighting and power systems.

(a) Where fitted, it shall be the duty of the master to see that the emergency lighting and power systems are operated and inspected at least once in each week that the vessel is navigated to be assured that the system is in proper operating condition.

(b) Internal combustion engine driven emergency generators shall be operated under load for at least 2 hours, at least once in each month that the vessel is navigated.

(c) Storage batteries for emergency lighting and power systems shall be tested at least once in each 6-month period that the vessel is navigated to demonstrate the ability of the storage battery to supply the emergency loads for the specified period of time.

(d) The date of the tests and the condition and performance of the apparatus shall be noted in the official logbook.

§ 196.15-35 Fire and boat drills.

(a) The master shall be responsible for conducting a fire and boat drill at least once in every week. The scheduling of such drills shall be at the discretion of the master except that at least one fire and boat drill shall be held within 24 hours of leaving a port if more than 25 percent of the crew have been replaced at that port.

(b) The fire and boat drill shall be conducted as if an actual emergency existed. All hands should report to their respective stations and be prepared to perform the duties specified in the station bill.

(1) Fire pumps shall be started and a sufficient number of outlets used to ascertain that the system is in proper working order.

(2) All rescue and safety equipment shall be brought from the emergency equipment lockers and the persons designated shall demonstrate their ability to use the equipment.

(3) All watertight doors which are in use while the vessel is underway shall be operated.

(4) Weather permitting, lifeboat covers and strongbacks shall be removed, plugs or caps put in place, boat ladders secured in position, painters led forward and tended, and other lifesaving equipment prepared for use. The motor and hand-propelling gear of each lifeboat, where fitted, shall be operated for at least 5 minutes.

(5) In port, every lifeboat shall be swung out, if practicable, and the unobstructed lifeboats shall be lowered to the water and the crew exercised in the use of the oars and other means of propulsion if provided for the lifeboat. Although all lifeboats may not be used in a particular drill, care shall be taken that all lifeboats are given occasional use to ascertain that all lowering equipment is in proper order and the crew properly trained. The master shall be responsible that each lifeboat is lowered to the water at least once in each 3 months.

(6) When the vessel is underway, and weather permitting, all lifeboats shall be swung out to ascertain that the gear is in proper order.

(7) The person in charge of each lifeboat and liferaft shall have a list of its crew and shall see that the men under his command are acquainted with their duties.

(8) Lifeboat equipment shall be examined at least once a month to insure that it is complete.

(c) An entry shall be made in the vessel's official logbook relative to each fire and boat drill setting forth the date and hour, length of time of the drill, numbers on the lifeboats swung out and numbers on those lowered, the length of time that motor and hand-propelled lifeboats are operated, the number of lengths of hose used, together with a statement as to the condition of all fire and lifesaving equipment, watertight door mechanisms, valves, etc. An entry shall also be made to report the monthly examination of the lifeboat equipment. If in any week the required fire and boat drills are not held or only partial drills are held, an entry shall be made stating the circumstances and extent of the drills held.

(d) A copy of these requirements, Form CG-809, Notice-Station Bill and Drills, shall be framed under glass or other transparent material and posted in a conspicuous place about the vessel. This form may be obtained from the Officer in Charge, Marine Inspection.

§ 196.15–37 Exposure suits.

The master of a vessel when operating on the Great Lakes shall ensure that each crew member and all scientific personnel wear their exposure suits in at least one fire and boat drill per month.

[CGD 76–033a, 45 FR 24487, Apr. 10, 1980]

§ 196.15–40 Electric power-operated lifeboat winches.

(a) It shall be the duty of the master to see that all lifeboat winch control apparatus, including motor controllers, emergency switches, master switches, are examined at least once in each 3 months. The examination shall include the removal of drain plugs and/or the opening of drain valves in such appliances to assure that the enclosures are free of water.

(b) The date of the examination required by this section and the condition of the equipment shall be noted in the official logbook.

§ 196.15–45 Lifeboats, rescue boats, liferafts, lifefloats, and buoyant apparatus.

(a)(1) It shall be the duty of the master or person in charge to see that the lifeboats, rescue boats, liferafts, lifefloats, and buoyant apparatus are properly maintained at all times, and that all equipment for his vessel required by the regulations in this subchapter is provided, maintained, and replaced as indicated.

(2) The master shall assign to one or more officers the duty of seeing that the lifeboats, rescue boats, liferafts, lifefloats, and buoyant apparatus are at all times ready for immediate use.

(3) The decks on which lifeboats, rescue boats, liferafts, lifefloats, and buoyant apparatus are stowed shall be kept clear of cargo or any other obstructions which would interfere with the immediate launching of such equipment.

(b) Where motor-propelled lifeboats are carried, the motor of each lifeboat shall be operated in the ahead and astern position for a period of not less than 5 minutes at least once in each week.

(c) All lifeboats, rescue boats and rigid type liferafts shall be stripped, cleaned, and thoroughly overhauled at least once in every year. When lifeboats are removed from a vessel for this purpose on a rotational basis, the installation test prescribed by Subpart 192.35 of this subchapter need not be made.

(d) The fuel tanks of all motor-propelled lifeboats shall be emptied and the fuel changed at least once in every year.

(e) Vessels in ocean or coastwise service having a sufficient number of lifeboats on each side to accommodate all persons on board may care for their lifeboats at sea: *Provided,* That a number of lifeboats sufficient to accommodate all persons on board are fully equipped and ready for use at all times.

(f) Inflatable liferafts shall be serviced at an approved service facility every 12 months or not later than next inspection for certification provided the time since date of last servicing does not exceed 15 months. Except in emergencies no servicing should be done aboard vessels.

§ 196.15-50 Radio apparatus for lifeboats.

(a) It shall be the duty of the master to require that all batteries for all fixed and portable radio apparatus for lifeboats are brought up to full charge weekly if the batteries are of a type which require recharging.

(b) The transmitter shall be tested weekly using a suitable artificial aerial.

§ 196.15-55 Requirements for fuel oil.

(a) It shall be the duty of the chief engineer to cause an entry in the log to be made of each supply of fuel oil received on board, stating the quantity received, the name of the vendor, the name of the oil producer, and the flashpoint (closed cup test) for which it is certified by the producer.

(b) It shall be the further duty of the chief engineer to cause to be drawn and sealed and suitably labeled at the time the supply is received on board, a half-pint sample of each lot of fuel oil. These samples shall be preserved until the particular supply of oil is exhausted.

§ 196.15-60 Firefighting equipment, general.

(a) It shall be the duty of the owner, master, or person in charge to see that the vessel's firefighting equipment is at all times ready for use and that all such equipment required by the regulations in this subchapter is provided, maintained, and replaced as indicated.

(b) It shall be the duty of the owner, master, or person in charge to require and have performed at least once in every 12 months the tests and inspections of all hand portable fire extinguishers, semiportable fire extinguishing systems, and fixed fire extinguishing systems on board as described in Tables 189.25-20(a)(1) and 189.25-20(a)(2) in § 189.25-20(a) of this subchapter. The owner, master, or person in charge shall keep records of such tests and inspections showing the dates when performed, the number and/or other identification of each unit tested and inspected, and the name(s) of the person(s) and/or company conducting the tests and inspections. Such records shall be made available to the marine inspector upon request and shall be kept for the period of validity of the vessel's current certificate of inspection. Where practicable these records should be kept in or with the vessel's logbook. The conduct of these tests and inspections does not relieve the owner, master, or person in charge of his responsibility to maintain this firefighting equipment in proper condition at all times.

§ 196.15-65 Emergency position indicating radiobeacon (EPIRB).

The master shall ensure that—

(a) The EPIRB required in § 192.65-1 of this subchapter is tested monthly, using the integrated test circuit and output indicator, to determine that it is operative; and

(b) The EPIRB's battery is replaced after the EPIRB is used and before the date required by FCC regulations in 47 CFR Part 83 to be marked on the outside of the EPIRB.

(R.S. 4488, as amended (46 U.S.C. 481); 49 CFR 1.4(b)(1)(ii), 1.46(b))

[CGD 73-24R, 39 FR 10140, Mar. 18, 1974]

§ 196.15-70 Personal flotation device lights.

(a) Each personal flotation device light that has a non-replaceable power source must be replaced on or before the expiration date of the power source.

(b) Each replaceable power source for a personal flotation device light must be replaced on or before its expiration date and the light must be replaced when it is no longer serviceable.

(46 U.S.C. 375, 390b, 391a, 416, 481, 526p, 1454, and 1488; 49 U.S.C. 1655(b); 50 U.S.C. 198; and 49 CFR 1.46)

[CGD 76-028, 44 FR 38789, July 2, 1979]

Subpart 196.17—Steering Orders

§ 196.17-1 Method of communicating.

(a) All steering orders shall be given and communicated in terms of "right rudder" where it is intended that the top of the wheel, the rudder blade, and the head of the ship should go to the right, and "left rudder" where it is intended that the top of the wheel, the rudder blade, and the head of the ship should go to the left.

Subpart 196.19—Maneuvering Characteristics

§ 196.19-1 Data required.

For each ocean and coastwise vessel of 1,600 gross tons or over, the following apply:

(a) The following maneuvering information must be prominently displayed in the pilothouse on a fact sheet:

(1) For full and half speed, a turning circle diagram to port and starboard that shows the time and the distance of advance and transfer required to alter the course 90 degrees with maximum rudder angle and constant power settings.

(2) The time and distance to stop the vessel from full and half speed while maintaining approximately the initial heading with minimum application of rudder.

(3) For each vessel with a fixed propeller, a table of shaft revolutions per minute for a representative range of speeds.

(4) For each vessel with a controllable pitch propeller a table of control settings for a representative range of speeds.

(5) For each vessel that is fitted with an auxiliary device to assist in maneuvering, such as a bow thruster, a table of vessel speeds at which the auxiliary device is effective in maneuvering the vessel.

(b) The maneuvering information must be provided in the normal load and normal light condition with normal trim for a particular condition of loading assuming the following—

(1) Calm weather—wind 10 knots or less, calm sea;

(2) No current;

(3) Deep water conditions—water depth twice the vessel's draft or greater; and

(4) Clean hull.

(c) At the bottom of the fact sheet, the following statement must appear:

WARNING

The response of the (name of the vessel) may be different from those listed above if any of the following conditions, upon which the maneuvering information is based, are varied:

(1) Calm weather—wind 10 knots or less, calm sea;

(2) No current;

(3) Water depth twice the vessel's draft or greater.

(4) Clean hull; and

(5) Intermediate drafts or unusual trim.

(d) The information on the fact sheet must be:

(1) Verified six months after the vessel is placed in service; or

(2) Modified six months after the vessel is placed into service and verified within three months thereafter.

(e) The information that appears on the fact sheet may be obtained from:

(1) Trial trip observations;

(2) Model tests;

(3) Analytical calculations;

(4) Simulations;

(5) Information established from another vessel of similar hull form, power, rudder and propeller; or

(6) Any combination of the above.

The accuracy of the information in the fact sheet required is that attainable by ordinary shipboard navigation equipment.

(f) The requirements for information for fact sheets for specialized craft such as semi-submersibles, hydrofoils, hovercraft and other vessels of unusual design will be specified on a case by case basis.

[CGD 73-78, 40 FR 2689, Jan. 15, 1975]

Subpart 196.20—Whistling

§ 196.20-1 Unnecessary whistling prohibited.

(a) The unnecessary sounding of the vessel's whistle is prohibited within any harbor limits of the United States.

Subpart 196.23—Unauthorized Lights

§ 196.23-1 Unauthorized lights prohibited.

(a) The master shall not authorize or permit the carrying of any lights not required by law that in any way will interfere with the distinguishing of the signal lights.

Subpart 196.25—Searchlights

§ 196.25-1 Improper use prohibited.

(a) No person shall flash or cause to be flashed the rays of a searchlight or other blinding light onto the bridge or into the pilothouse of any vessel underway.

Subpart 196.27—Lookouts

§ 196.27-1 Master's and officer's responsibility.

(a) Nothing in this part shall exonerate any master or officer in command from the consequences of any neglect to keep a proper lookout or the neglect of any precaution which may be required by the ordinary practice of seamen or by the special circumstances of the case.

§ 196.27-10 Reckless or negligent operation prohibited by law.

(a) Subsection 13(a) of the act of April 25, 1940 (46 U.S.C. 526*l*), reads as follows:

> No person shall operate any motorboat or any vessel in a reckless or negligent manner so as to endanger the life, limb, or property of any person. To "operate" means to navigate or otherwise use a motorboat or a vessel.

Subpart 196.30—Reports of Accidents, Repairs, and Unsafe Equipment

AUTHORITY: R.S. 4450, as amended, 4453, as amended, sec. 10, 18 Stat. 128, as amended; 46 U.S.C. 239, 435, 33 U.S.C. 361.

§ 196.30-1 Repairs to boilers and pressure vessels.

(a) Before making any repairs to boilers or unfired pressure vessels, the Chief Engineer shall submit a report covering the nature of the repairs to the Officer in Charge, Marine Inspection, at or nearest to the U.S. port where the repairs are to be made.

§ 196.30-5 Accidents to machinery.

(a) In the event of an accident to a boiler, unfired pressure vessel, or machinery tending to render the further use of the item unsafe until repairs are made, or if by ordinary wear such items become unsafe, a report shall be made by the Chief Engineer immediately to the Officer in Charge, Marine Inspection, or if at sea, immediately upon arrival at port.

§ 196.30-10 Notice required before repair.

(a) No repairs or alterations, except in an emergency, shall be made to any lifesaving or fire detecting or extinguishing equipment without advance notice to the Officer in Charge, Marine Inspection. When emergency repairs or alterations have been made, notice shall be given to the Officer in Charge, Marine Inspection, as soon as practicable.

§ 196.30-20 Breaking of safety valve seal.

(a) If at any time it is necessary to break the seal on a safety valve for any purpose, the Chief Engineer shall advise the Officer in Charge, Marine Inspection, at the next port of call, giving the reason for breaking the seal and requesting that the valve be examined and adjusted by an inspector.

(R.S. 4419, as amended; 46 U.S.C. 393.)

Subpart 196.33—Cable Traveler

AUTHORITY: R.S. 4488, as amended; 46 U.S.C. 481.

§ 196.33-1 When required.

(a) On vessels where the distance between deckhouses is more than 150 feet, a wire cable shall be stretched between the deckhouses at all times when the vessel is navigating in other than protected waters. As many loose rings with lanyards shall be attached as deemed necessary by the master. In any case, a properly constructed raised catwalk or raised bridge or a below deck passage may be substituted for the required cable.

Subpart 196.34—Work Vests

AUTHORITY: R.S. 4488, as amended, 4491, as amended; 46 U.S.C. 481, 489.

§ 196.34-1 Application.

(a) Provisions of this subpart shall apply to all vessels.

§ 196.34-5 Approved unicellular plastic foam work vests.

(a) Buoyant work vests carried under the permissive authority of this subpart shall conform to the specifications contained in Subpart 160.053 of Part 160 in Subchapter Q (Specifications) of this chapter.

§ 196.34-10 Use.

(a) Approved buoyant work vests are considered to be items of safety apparel and may be carried aboard vessels to be worn by crew members when working near or over the water under favorable working conditions. They shall be used under the supervision and control of designated ship's officers. When carried, such vests shall not be accepted in lieu of any portion of the required number of approved life preservers and shall not be substituted for the approved life preservers required to be worn during drills and emergencies.

§ 196.34-15 Shipboard stowage.

(a) The approved buoyant work vests shall be stowed separately from the regular stowage of approved life preservers.

(b) The locations for the stowage of work vests shall be such as not to be easily confused with that for approved life preservers.

§ 196.34-20 Shipboard inspections.

(a) Each work vest shall be subject to examination by a marine inspector to determine its serviceability. If found to be satisfactory, it may be continued in service, but shall not be stamped by a marine inspector with a Coast Guard stamp. If a work vest is found not to be in a serviceable condition, then such work vest shall be removed from the vessel. If a work vest is beyond repair, it shall be destroyed or mutilated in the presence of a marine inspector so as to prevent its continued use as a work vest.

Subpart 196.35—Logbook Entries

AUTHORITY: R.S. 4472, as amended, 4488, as amended, sec. 6, 45 Stat. 1494, sec. 6, 49 Stat. 889: 46 U.S.C. 170, 481, 85e, 88e.

§ 196.35-1 Application.

(a) Except as specifically noted, the provisions of this subpart shall apply to all manned vessels.

§ 196.35-3 Logbooks and records.

(a) Under various statutes or by regulations in this subchapter, all vessels with the exception of vessels operated exclusively on rivers of the United States are required to have certain logbooks or records, and, when the occasion arises, it is the duty of the master or person in charge to place therein specific entries as required by law or regulations in this chapter.

(b) R.S. 4290, as amended (46 U.S.C. 201), states: "Every vessel making voyages from a port in the United States to any foreign port, or, being of the burden of 75 tons or upward, from a port on the Atlantic to a port on the Pacific, or vice versa, shall have an official logbook; * * *." An official logbook is furnished gratuitously to masters by the U.S. Coast Guard as Form CG-706B or CG-706C, depending upon the number of persons employed as crew. A Coast Guard form official logbook may be utilized by oceanographic vessels or alternatively the owner may utilize his own format for an official logbook. Such logs shall be kept available for review by a marine inspector for a period of 1 year after the date to which the records refer or for the period of validity of the vessel's current certificate of inspection, whichever is longer.

(c) For vessels other than those required to have official logbooks by R.S. 4290 (46 U.S.C. 201), the owners, operators, and/or masters are to supply their own logs or records in any form desired, which will be considered to take the place of the official logbooks and may be used for the purpose of making entries therein as required by law or regulations in this subchapter. Such logs or records are not filed with the Officer in Charge, Marine Inspection, but shall be kept available for review by a marine inspector for a period of 1 year after the date to which the records refer, except for separate records of tests and inspections of firefighting equipment which shall be maintained with the vessel's logs for the period of validity of the vessel's certificate of inspection.

§ 196.35-5 Actions required to be logged.

(a) The actions and observations noted in this section shall be entered in the official logbook. This section contains no requirements which are not made in other portions of this subchapter, the items being merely grouped together for convenience.

(1) Fire and boat drills. Weekly. See § 196.15-35.

(2) Steering gear, whistle, and means of communication. Prior to departure. See § 196.15-3.

(3) Drafts and load line marks. Prior to leaving port, ocean, coastwise, and Great Lakes service only. See § 196.15-5.

(4) Line-throwing appliances. Once every 3 months. See § 196.15-25.

(5) Emergency lighting and power systems. Weekly and semiannually. See § 196.15-30.

(6) Electric power-operated lifeboat winches. Once every 3 months. See § 196.15-40.

(7) Fuel oil data: Upon receipt of fuel oil on board. See § 196.15-55.

(8) Hatches and other openings. All openings and closings required by § 196.15-20.

(9) Magazines and magazine chests. Maximum and minimum temperatures as required by § 196.85-1(b).

(10) Portable vans, prior to departure. See § 195.11-25(e) of this subchapter.

(11) Weight handling gear, prior to departure. See § 189.35-13(b) of this subchapter.

§ 196.35-10 Official log entries.

(a) On vessels where an official logbook is required by R.S. 4290 (46 U.S.C. 201), all items relative to the crew as well as with respect to any casualties which may occur, shall be entered in the official logbook as required by this law.

Subpart 196.36—Display of Plans

§ 196.36-1 When required.

(a) All manned vessels shall have permanently exhibited for the guidance of the officer in charge of the vessel, general arrangement plans showing for each deck the various fire retardant bulkheads together with particulars of the fire-detecting, manual alarm and fire extinguishing systems, fire doors, means of ingress to the different compartments, the ventilating systems including the positions of the dampers, the location of the remote means of stopping the fans, and the identification of the fans serving each section.

(R.S. 4488, as amended; 46 U.S.C. 481).

Subpart 196.37—Markings for Fire and Emergency Equipment, etc.

AUTHORITY: R.S. 4488, as amended; 46 U.S.C. 481.

§ 196.37-1 Application.

(a) It is the intent of this subpart to shall apply to all vessels.

§ 196.37-3 General.

(a) It is the intent of this subpart to provide such markings as are necessary for the guidance of the persons on board in case of an emergency. In any specific case, and particularly on small vessels, where it can be shown to the satisfaction of the Officer in Charge, Marine Inspection, that the prescribed markings are unnecessary for the guidance of the persons on board in case of emergency, such markings may be modified or omitted.

(b) In addition to English, notices, directional signs, etc., shall be printed in languages appropriate to the service of the vessel.

(c) Where in this subpart red letters are specified, letters of a contrasting color on a red background will be accepted.

§ 196.37-5 General alarm bell switch.

(a) The general alarm bell switch in the pilothouse shall be clearly and permanently identified by lettering on a metal plate or with a sign in red letters on a suitable background: "GENERAL ALARM."

CROSS REFERENCE: See also § 113.25-20 of Subchapter J (Electrical Engineering) of this chapter.

§ 196.37-7 General alarm bells.

(a) All general alarm bells shall be identified by red lettering at least ½ inch high: "GENERAL ALARM—WHEN BELL RINGS GO TO YOUR STATION."

§ 196.37-9 Carbon dioxide alarm.

(a) All carbon dioxide alarms shall be conspicuously identified: "WHEN ALARM SOUNDS—VACATE AT ONCE. CARBON DIOXIDE BEING RELEASED."

§ 196.37-10 Fire extinguishing system branch lines.

(a) The branch line valves of all fire extinguishing systems shall be plainly and permanently marked indicating the spaces served.

§ 196.37-13 Fire extinguishing system controls.

(a) The control cabinets or spaces containing valves or manifolds for the various fire extinguishing systems shall be distinctly marked in conspicuous red letters at least 2 inches high: "CARBON DIOXIDE FIRE APPARATUS," or "FOAM FIRE APPARATUS," etc., as the case may be.

§ 196.37-15 Firehose stations.

(a) Each fire hydrant shall be identified in red letters and figures at least 2 inches high "FIRE STATION NO. 1", "2", "3", etc. Where the hose is not stowed in the open or behind glass so as to be readily seen, this identification shall be so placed as to be readily seen from a distance.

§ 196.37-20 Self-contained breathing apparatus and gas masks.

(a) Lockers or spaces containing self-contained breathing apparatus shall be marked "SELF-CONTAINED BREATHING APPARATUS".

§ 196.37-23 Hand portable fire extinguishers.

(a) Each hand portable fire extinguisher shall be marked with a number and the location where stowed shall be marked with a corresponding number at least ½ inch high. Where only one type and size of hand portable fire extinguisher is carried, the numbering may be omitted.

§ 196.37-25 Emergency lights.

(a) All emergency lights shall be marked with a letter "E" at least ½ inch high.

§ 196.37-33 Instructions for changing steering gear.

(a) Instructions in at least ½ inch letters and figures shall be posted in the steering engineroom, relating in order, the different steps to be taken in changing to the emergency steering gear. Each clutch, gear, wheel, lever, valve, or switch which is used during the changeover shall be numbered or lettered on a metal plate or painted so that the markings can be recognized at a reasonable distance. The instructions shall indicate each clutch or pin to be "in" or "out" and each valve or switch which is to be "opened" or "closed" in shifting to any means of steering for which the vessel is equipped. Instructions shall be included to line up all steering wheels and rudder amidship before changing gears.

§ 196.37-35 Rudder orders.

(a) At all steering stations, there shall be installed a suitable notice on the wheel or device or in such other position as to be directly in the helmsman's line of vision, to indicate the direction in which the wheel or device must be turned for "right rudder" and for "left rudder".

§ 196.37-37 Lifeboats.

(a) The name of the vessel shall be plainly marked or painted on each side of the bow of each lifeboat in letters not less than 3 inches high. For vessels on an international voyage, the vessel's port of registry shall be added in similar type letters.

(b) The number of each lifeboat shall be plainly marked or painted on each side of the bow of each lifeboat in figures not less than 3 inches high. The lifeboats on each side of the vessel shall be numbered from forward aft, with the odd numbers on the starboard side.

(c) The cubical contents and number of persons allowed to be carried in each lifeboat shall be plainly marked or painted on each side of the bow of each lifeboat in letters and numbers not less than 1½ inches high. In addition, the number of persons allowed shall be plainly marked or painted on top of at least two thwarts in letters and numbers not less than 3 inches high.

(d) All oars shall be conspicuously marked with the vessel's name.

(e) Where mechanical disengaging apparatus is used, the control effecting the release of the lifeboat shall be painted bright red and shall have thereon in raised letters either the words—"DANGER—LEVER DROPS BOAT" or the words—"DANGER—LEVER RELEASES HOOKS".

(f) The top of thwarts, side benches, and footings of lifeboats shall be painted or otherwise colored international orange. The area in way of the red mechanical disengaging gear control lever, from the keel to the side bench, shall be painted or otherwise colored white, to provide a contrasting background for the lever. This band of white should be approximately 12 inches wide depending on the internal arrangement of the lifeboat.

§ 196.37-40 Liferafts, lifefloats, and buoyant apparatus.

(a) Rigid type liferafts, lifeboats, and buoyant apparatus, together with their oars and paddles, shall be conspicuously marked with the vessel's name. For vessels on an international voyage, the vessel's port of registry also shall be similarly marked on lifefloats and bouyant apparatus.

(b) The number of persons allowed on each rigid type liferaft, lifefloat, and buoyant apparatus shall be conspicuously marked or painted thereon in letters and numbers at least 1½ inches high.

(c) There shall be stenciled in a conspicious place in the immediate vicinity of each inflatable liferaft the following.

INFLATABLE LIFERAFT NO. .... PERSONS CAPACITY

These markings shall not be placed on the inflatable liferaft containers.

§ 196.37-43 Life preservers, exposure suits, wood floats, and ring life buoys.

(a) Each life preserver, exposure suit, wood float, and ring life buoy must be marked with the vessel's name.

(b) For vessels on an international voyage, the vessel's port of registry shall be added in similar type letters on all ring life buoys.

[CGFR 67-83, 33 FR 1158, Jan. 27, 1968, as amended by CGD 76-033a, 45 FR 24487, Apr. 10, 1980]

§ 196.37-45 Firehose and axes.

(a) All firehose and axes shall be marked with the vessel's name.

§ 196.37-47 Portable magazine chests.

(a) Portable magazine chests shall be marked in letters at least 3 inches high:

PORTABLE MAGAZINE CHEST — FLAMMABLE — KEEP LIGHTS AND FIRE AWAY.

§ 196.37-49 Emergency position indicating radiobeacon (EPIRB).

The EPIRB required in § 192.65-1 of this subchapter must be marked with the vessel's name.

(R.S. 4488, as amended (46 U.S.C. 481); 49 CFR 1.4(b)(1)(ii) and 1.46(b))

[CGD 73-24R, 39 FR 10140, Mar. 18, 1974]

Subpart 196.39—Posting Placards of Instructions for Launching and Inflating Inflatable Liferafts

§ 196.39-1 When required.

(a) Every vessel equipped with inflatable liferafts shall have posted in conspicuous places which are regularly accessible to the crew and/or scientific personnel, approved placards containing instructions for launching and inflating inflatable liferafts for the information of persons on board. The number and location of such placards shall be as determined necessary by the Officer in Charge, Marine Inspection.

(b) Under the requirements contained in § 160.051-6(c)(1) of Subpart 160.051 in Subchapter Q (Specifications) of this chapter, the manufacturer of approved inflatable liferafts is required to provide approved placards containing such instructions with each liferaft.

Subpart 196.40—Markings on Vessels

§ 196.40-1 Application.

(a) The provisions of this subpart shall apply to all vessels except as specifically noted.

§ 196.40-5 Hull markings.

Vessels shall be marked as required by Parts 67 and 69 of this chapter.

[CGD 72-104R, 37 FR 14233, July 18, 1972; 37 FR 18537, Sept. 13, 1972]

§ 196.40-10 Draft marks.

(a) All documented vessels and all undocumented vessels shall have the draft of the vessel plainly and legibly marked upon the stem and upon the sternpost or rudderpost or at any place at the stern of the vessel as may be necessary for easy observance. The draft shall be taken from the bottom of the keel at the marks to the surface of the water, the bottom of the mark to indicate the draft in feet.

(b) In cases where the keel does not extend forward or aft to the location of the draft marks, due to raked stem, or cutaway skeg, the datum line from which the draft shall be taken shall be obtained by projecting the line of the bottom of keel forward, or aft, as the case may be, to the location of the draft marks.

(c) In cases where a vessel may have a skeg or other appendage extending locally below the line of the keel, the draft at the end of the vessel adjacent to such appendage shall be measured to a line tangent to the lowest part of such appendage and parallel to the line of the bottom of the keel.

§ 196.40-15 Load line marks.

(a) Vessels assigned a load line shall have the deck line and the load line marks permanently marked or embossed as required by Subchapter E (Load Lines) of this chapter.

Subpart 196.43—Placard of Lifesaving Signals and Breeches Buoy Instructions

§ 196.43-1 Application.

(a) The provisions of this subpart shall apply to all manned vessels certificated for ocean, coastwise, or Great Lakes service.

§ 196.43-5 Availability.

(a) On all vessels to which this subpart applies there shall be posted in the pilothouse and readily available to the deck officer of the watch a placard (Form CG-811) containing instructions for the use of breeches buoys and the lifesaving signals as set forth in Regulation 16, Chapter V, of the International Convention for Safety of Life at Sea, 1960. These signals shall be used by vessels or persons in distress when communicating with lifesaving stations and maritime rescue units.

(b) A copy of Form CG-811 shall also be conveniently posted in the engineroom and crews quarters of all vessels to which this subpart applies.

Subpart 196.45—Carrying of Excess Steam

§ 196.45-1 Master and chief engineer responsible.

(a) It shall be the duty of the master and the engineer in charge of the boilers of any vessel to require that a steam pressure is not carried in excess of that allowed by the certificate of inspection and to require that the safety valves, once set and sealed by the inspector, are in no way tampered with or made inoperative except as provided in § 196.30-20.

Subpart 196.50—Compliance With Provisions of Certificate of Inspection

§ 196.50-1 Master or person in charge responsible.

(a) It shall be the duty of the master or other person in charge of the vessel to see that all of the provisions of the certificate of inspection are strictly adhered to. Nothing in this subpart shall be construed as limiting the master or other person in charge of the vessel, at his own responsibility, from diverting from the route prescribed in the certificate of inspection or taking such other steps as he deems necessary and prudent to assist vessels in distress or for other similar emergencies.

Subpart 196.53—Exhibition of License

§ 196.53-1 Licensed officers.

(a) All licensed officers on a vessel shall have their licenses conspicuously displayed as required by R.S. 4446 (46 U.S.C. 232).

Subpart 196.60—Motion Picture Film and Equipment

§ 196.60-1 Type required.

(a) Only acetate or slow-burning film may be used. Nitrocellulose film is specifically prohibited.

(b) Projectors shall be of an approved type.

(R.S. 4488, as amended; 46 U.S.C. 481)

Subpart 196.75—Prevention of Oil Pollution

§ 196.75-1 General requirements.

An oceanographic research vessel must be operated to meet the requirements in—

(a) Section 311 of the Federal Water Pollution Control Act, as amended (86 Stat. 816; 33 U.S.C. 1321);

(b) Section 12 of the Oil Pollution Act, 1961, as amended (75 Stat. 404; 33 U.S.C. 1011); and

(c) 33 CFR parts 151, 155, and 156.

(R.S. 4405, as amended, R.S. 4417a, as amended, R.S. 4462, as amended, sec. 6(b)(1), 80 Stat. 937; 46 U.S.C. 375, 391a, 416, 49 U.S.C. 1655(b)(1); 49 CFR 1.46 (b) and (o)(4))

[CGD 73-58R, 39 FR 18768, May 30, 1974]

Subpart 196.80—Explosive Handling Plan

§ 196.80-1 Master's responsibility.

(a) It shall be the responsibility of the master to have prepared, signed, and prominently posted in conspicuous locations, operating procedures, plans, and safety precautions for all operations involving the use of explosives.

(b) The operating procedures referred to in paragraph (a) of this section shall include and set forth the special duties and stations of appropriate qualified persons for various operations involving the use of explosives. Assignment of such persons shall be commensurate with their experience and training.

(c) A copy of the operating procedures, plans and safety precautions required by paragraph (a) of this section and all subsequent changes or revisions shall be forwarded to the Officer in Charge, Marine Inspection, issuing the certificate of inspection for review.

Subpart 196.85—Magazine Control

§ 196.85-1 Magazine operation and control.

(a) Keys to magazine spaces and magazine chests shall be kept in the sole control or custody of the Master or one delegated qualified person at all times. Test fittings for magazine sprinkler systems shall be kept in a locked cabinet under the custody of the Master.

(b) Whenever explosives are stored in magazines and magazine chests they shall be inspected daily. Magazine inspection results and corrective action, when taken, shall be noted in the ship's log daily. Maximum and minimum temperatures for the previous 24-hour period shall be recorded in the ship's log along with general magazine condition and corrective action taken when necessary.

(c) The magazine sprinkler controls shall be tested monthly. Test results and all corrective actions taken shall be recorded in the ship's log.

(d) The Master shall limit access to the magazines, or the contents thereof, to persons who can document 3 months on board ship training in the use of explosives. This shall not be construed as prohibiting access to the Master or others designated by the Master.

Subpart 196.90—Exposure Suits

AUTHORITY: 46 U.S.C. 375, 391a, 416, and 481; 49 U.S.C. 1655(b); 49 CFR 1.46.

SOURCE: CGD 76-033a, 45 FR 24487, Apr. 10, 1980.

§ 196.90-1 Applicability.

This subpart applies to each vessel when operating on the Great Lakes.

§ 196.90-5 Stowage of exposure suits.

The master of a vessel shall ensure that—

(a) Each exposure suit required by § 192.41-5(a) is stowed in a readily accessible location in or near the berthing area of the person for whom the exposure suit is provided; and

(b) Each exposure suit required by § 192.41-5(b) for a watch or work station is stowed in a readily accessible location in or near the station.

§ 196.90-10 Child size exposure suits required.

The master of a vessel shall ensure that children, when carried are provided with child size exposure suits.

SUBCHAPTER V—MARINE OCCUPATIONAL SAFETY AND HEALTH STANDARDS

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AUTHORITY: (46 U.S.C. 239; 46 U.S.C. 390b; 46 U.S.C. 391a; 33 U.S.C. 1509(b); 43 U.S.C. 1333(d)(1); 43 U.S.C. 1331 et seq., as amended by Sec. 203 and 208 of Pub. L. 95-372; 46 U.S.C. 395; 46 U.S.C. 375; 46 U.S.C. 391; 46 U.S.C. 392; 46 U.S.C. 416; 49 U.S.C. 1655(b); 49 CFR 1.46 (b) and (s))

SOURCE: CGD 76-009, 43 FR 53683, Nov. 16, 1978, unless otherwise noted.

Subpart A—[Reserved]

Subpart B—Commerical Diving Operations

GENERAL

§ 197.200 Purpose of subpart.

This subpart prescribes rules for the design, construction, and use of equipment, and inspection, operation, and safety and health standards for commercial diving operations taking place from vessels and facilities under Coast Guard jurisdiction.

§ 197.202 Applicability.

(a) This subpart applies to commercial diving operations taking place at any deepwater port or the safety zone thereof as defined in 33 CFR 150; from any artificial island, installation, or other device on the Outer Continental

Shelf and the waters adjacent thereto as defined in 33 CFR 147 or otherwise related to activities on the Outer Continental Shelf; and from all vessels required to have a certificate of inspection issued by the Coast Guard including mobile offshore drilling units regardless of their geographic location, or from any vessel connected with a deepwater port or within the deepwater port safety zone, or from any vessel engaged in activities related to the Outer Continental Shelf; except that this subpart does not apply to any diving operation—

(1) Performed solely for marine scientific research and development purposes by educational institutions;

(2) Performed solely for research and development for the advancement of diving equipment and technology; or

(3) Performed solely for search and rescue or related public safety purposes by or under the control of a governmental agency.

(b) Diving operations may deviate from the requirements of this subpart to the extent necessary to prevent or minimize a situation which is likely to cause death, injury, or major environmental damage. The circumstances leading to the situation, the deviations made, and the corrective action taken, if appropriate, to reduce the possibility of recurrence shall be recorded by the diving supervisor in the logbook as required by § 197.482(c).

§ 197.204 Definitions.

As used in this subpart:

"ACFM" means actual cubic feet per minute.

"ANSI Code" means the B31.1 American National Standards Institute "Code for Pressure Piping, Power Piping."

"ASME Code" means the American Society of Mechanical Engineers "Boiler and Pressure Vessel Code."

"ASME PVHO-1" means the ANSI/ASME standard "Safety Standard for Pressure Vessels for Human Occupancy."

"ATA" means a measure of pressure expressed in terms of atmosphere absolute (includes barometric pressure).

"Bell" means a compartment either at ambient pressure (open bell) or pressurized (closed bell) that allows the diver to be transported to and from the underwater work site, allows the diver access to the surrounding environment, and is capable of being used as a refuge during diving operations.

"Bottom time" means the total elapsed time measured in minutes from the time the diver leaves the surface in descent to the time to the next whole minute that the diver begins ascent.

"Breathing gas/breathing mixture" means the mixed-gas, oxygen, or air as appropriate supplied to the diver for breathing.

"Bursting pressure" means the pressure at which a pressure containment device would fail structurally.

"Commercial diver" means a diver engaged in underwater work for hire excluding sport and recreational diving and the instruction thereof.

"Commercial diving operation" means all activities in support of a commercial diver.

"Cylinder" means a pressure vessel for the storage of gases under pressure.

"Decompression chamber" means a pressure vessel for human occupancy such as a surface decompression chamber, closed bell, or deep diving system especially equipped to recompress, decompress, and treat divers.

"Decompression sickness" means a condition caused by the formation of gas or gas bubbles in the blood or body tissue as a result of pressure reduction.

"Decompression table" means a profile or set of profiles of ascent rates and breathing mixtures designed to reduce the pressure on a diver safely to atmospheric pressure after the diver has been exposed to a specific depth and bottom time.

"Depth" means the maximum pressure expressed in feet of seawater attained by a diver and is used to express the depth of a dive.

"Dive location" means that portion of a vessel or facility from which a diving operation is conducted.

"Dive team" means the divers and diver support personnel involved in a diving operation, including the diving supervisor.

"Diver" means a person working beneath the surface, exposed to hyperbaric conditions, and using underwater breathing apparatus.

"Diver-carried reserve breathing gas" means a supply of air or mixed-gas, as appropriate, carried by the diver in addition to the primary or secondary breathing gas supplied to the diver.

"Diving installation" means all of the equipment used in support of a commercial diving operation.

"Diving mode" means a type of diving requiring SCUBA, surface-supplied air, or surface-supplied mixed-gas equipment, with related procedures and techniques.

"Diving stage" means a suspended platform constructed to carry one or more divers and used for putting divers into the water and bringing them to the surface when in-water decompression or a heavy-weight diving outfit is used.

"Diving supervisor" means the person having complete responsibility for the safety of a commercial diving operation including the responsibility for the safety and health of all diving personnel in accordance with this subpart.

"Facility" means a deepwater port, or an artificial island, installation, or other device on the Outer Continential Shelf subject to Coast Guard jurisdiction.

"Fsw" means feet of seawater (or equivalent static pressure head).

"Gas embolism" means a condition caused by expanding gases, which have been taken into and retained in the lungs while breathing under pressure, being forced into the bloodstream or other tissues during ascent or decompression.

"Heavy-weight diving outfit" means diver-worn surface-supplied deep-sea dress.

"Hyperbaric conditions" means pressure conditions in excess of surface atmospheric pressure.

"Injurious corrosion" means an advanced state of corrosion which may impair the structural integrity or safe operation of the equipment.

"Liveboating" means the support of a surfaced-supplied diver from a vessel underway.

"Maximum working pressure" means the maximum pressure to which a pressure containment device can be exposed under operating conditions (usually the pressure setting of the pressure relief device).

"No-decompression limits" means the air depth and bottom time limits of appendix A.

"Pressure vessel" means a container capable of withstanding an internal maximum working pressure over 15 psig.

"Psi(g)" means pounds per square inch (gage).

"PVHO" means pressure vessel for human occupancy but does not include pressure vessels for human occupancy that may be subjected to external pressures in excess of 15 psig but can only be subjected to maximum internal pressures of 15 psig or less (i.e., submersibles, or one atmosphere observation bells).

"Saturation diving" means saturating a diver's tissues with the inert gas in the breathing mixture to allow an extension of bottom time without additional decompression.

"SCUBA diving" means a diving mode in which the diver is supplied with a compressed breathing mixture from diver carried equipment.

"Standby diver" means a diver at the dive location available to assist a diver in the water.

"Surface-supplied air diving" means a diving mode in which the diver is supplied from the dive location or bell with compressed breathing air including oxygen or oxygen enriched air if supplied for treatment.

"Surface-supplied mixed-gas diving" means a diving mode in which the diver is supplied from the dive location or bell with a compressed breathing mixture other than air.

"Timekeeping device" means a device for measuring the time of a dive in minutes.

"Treatment table" means a depth, time, and breathing gas profile designed to treat a diver for decompression sickness.

"Umbilical" means the hose bundle between a dive location and a diver or bell, or between a diver and a bell, that supplies the diver or bell with a life-line, breathing gas, communications, power, and heat as appropriate to the diving mode or conditions.

"Vessel" means any waterborne craft including mobile offshore drilling units required to have a Certificate of Inspection issued by the Coast Guard or any waterborne craft connected with a deepwater port or within the deepwater port safety zone, or any waterborne craft engaged in activities related to the Outer Continental Shelf.

"Volume tank" means a pressure vessel connected to the outlet of a compressor and used as an air reservoir.

"Working pressure" means the pressure to which a pressure containment device is exposed at any particular instant during normal operating conditions.

§ 197.205 Availability of standards.

(a) Several standards have been incorporated by reference in this subchapter. The incorporation by reference has been approved by the Director of the Federal Register under the provisions of 1 CFR Part 51.

(b) The standards are available from the appropriate organizations whose addresses are listed below:

(1) American National Standards Institute, 1430 Broadway, New York, N.Y. 10018.

(2) American Society of Mechanical Engineers, United Engineering Center, 345 East 47th Street, New York, N.Y. 10017.

§ 197.206 Substitutes for required equipment, materials, apparatus, arrangements, procedures, or tests.

(a) The Coast Guard may accept substitutes for equipment, materials, apparatus, arrangements, procedures, or tests required in this subpart if the substitute provides an equivalent level of safety.

(b) In any case where it is shown to the satisfaction of the Commandant that the use of any particular equipment, material, apparatus, arrangement, procedure, or test is unreasonable or impracticable, the Commandant may permit the use of alternate equipment, material, apparatus, arrangement, procedure, or test to such an extent and upon such condition as will insure, to his satisfaction, a degree of safety consistent with the minimum standards set forth in this Subpart.

§ 197.208 Designation of person-in-charge.

(a) The owner or agent of a vessel or facility without a designated master shall designate, in writing, an individual to be the person-in-charge of the vessel or facility.

(b) Where a master is designated, the master is the person-in-charge.

§ 197.210 Designation of diving supervisor.

The name of the diving supervisor for each commercial diving operation shall be—

(a) Designated in writing; and

(b) Given to the person-in-charge prior to the commencement of any commercial diving operation.

EQUIPMENT

§ 197.300 Applicability.

(a) Each diving installation used on each vessel or facility subject to this subpart must meet the requirements of this subpart.

(b) In addition to the requirements of this subpart, equipment which is permanently installed on vessels and is part of the diving installation must meet subchapters F and J of this chapter.

(c) All repairs and modifications to pressure vessels used for commercial diving operations must be made in accordance with the requirements of section VIII, division 1 or division 2 of the ASME Code, ASME PVHO-1, part 54 of this chapter, or 49 CFR 173.34, as applicable.

(d) All repairs and modifications to pressure piping used for commercial diving operations must be made in accordance with the requirements of the ANSI Code or part 56 of this chapter, as applicable.

§ 197.310 Air compressor system.

A compressor used to supply breathing air to a diver must have—

(a) A volume tank that is—

(1) Built and stamped in accordance with section VIII, division 1 of the ASME Code with—

(i) A check valve on the inlet side;

(ii) A pressure gage;

(iii) A relief valve; and

(iv) A drain valve; and

(2) Tested after every repair, modification, or alteration to the pressure boundaries as required by § 197.462;

(b) Intakes that are located away from areas containing exhaust fumes of internal combustion engines or other hazardous contaminants;

(c) An efficient filtration system; and

(d) Slow-opening shut-off valves when the maximum allowable working pressure of the system exceeds 500 psig.

§ 197.312 Breathing supply hoses.

(a) Each breathing supply hose must—

(1) Have a maximum working pressure that is equal to or exceeds—

(i) The maximum working pressure of the section of the breathing supply system in which used; and

(ii) The pressure equivalent of the maximum depth of the dive relative to the supply source plus 100 psig;

(2) Have a bursting pressure of four times its maximum working pressure;

(3) Have connectors that—

(i) Are made of corrosion-resistant material;

(ii) Are resistant to accidental disengagement; and

(iii) Have a maximum working pressure that is at least equal to the maximum working pressure of the hose to which they are attached; and

(4) Resist kinking by—

(i) Being made of kink-resistant materials; or

(ii) Having exterior support.

(b) Each umbilical must—

(1) Meet the requirements of paragraph (a) of this section; and

(2) Be marked from the diver or open bell end in 10-foot intervals to 100 feet and in 50-foot intervals thereafter.

§ 197.314 First aid and treatment equipment.

(a) Each dive location must have—

(1) A medical kit approved by a physician that consists of—

(i) Basic first aid supplies; and

(ii) Any additional supplies necessary to treat minor trauma and illnesses resulting from hyperbaric exposure;

(2) A copy of an American Red Cross Standard First Aid handbook;

(3) A bag-type manual resuscitator with transparent mask and tubing; and

(4) A capability to remove an injured diver from the water.

(b) Each diving installation must have a two-way communications system to obtain emergency assistance except when the vessel or facility ship-to-shore, two-way communications system is readily available.

(c) Each dive location supporting mixed-gas dives, dives deeper than 130 fsw, or dives outside the no-decompression limits must meet the requirements of paragraph (a) of this section and have—

(1) A decompression chamber;

(2) Decompression and treatment tables;

(3) A supply of breathing gases sufficient to treat for decompression sickness;

(4) The medical kit required by paragraph (a)(1) of this section that is—

(i) Capable of being carried into the decompression chamber; and

(ii) Suitable for use under hyperbaric conditions; and

(5) A capability to assist an injured diver into the decompression chamber.

§ 197.318 Gages and timekeeping devices.

(a) A gage indicating diver depth must be at each dive location for surface-supplied dives.

(b) A timekeeping device must be at each dive location.

§ 197.320 Diving ladder and stage.

(a) Each diving ladder must—

(1) Be capable of supporting the weight of at least two divers;

(2) Extend 3 feet below the water surface;

(3) Be firmly in place;

(4) Be available at the dive location for a diver to enter or exit the water unless a diving stage or bell is provided; and

(5) Be—(i) Made of corrosion-resistant material; or

(ii) Protected against and maintained free from injurious corrosion.

(b) Each diving stage must—

(1) Be capable of supporting the weight of at least two divers;

(2) Have an open-grating platform;

(3) Be available for a diver to enter or exit the water from the dive location and for in-water decompression if the diver is—

(i) Wearing a heavy-weight diving outfit; or

(ii) Diving outside the no-decompression limits, except when a bell is provided; and

(4) Be—(i) Made of corrosion-resistant material; or

(ii) Protected against and maintained free from injurious corrosion.

§ 197.322 Surface-supplied helmets and masks.

(a) Each surface-supplied helmet or mask must have—

(1) A nonreturn valve at the attachment point between helmet or mask and umbilical that closes readily and positively;

(2) An exhaust valve; and

(3) A two-way voice communication system between the diver and the dive location or bell.

(b) Each surface-supplied air helmet or mask must—

(1) Ventilate at least 4.5 ACFM at any depth at which it is operated; or

(2) Be able to maintain the diver's inspired carbon dioxide partial pressure below 0.02 ATA when the diver is producing carbon dioxide at the rate of 1.6 standard liters per minute.

§ 197.324 Diver's safety harness.

Each safety harness used in surface-supplied diving must have—

(a) A positive buckling device; and

(b) An attachment point for the umbilical life line that—

(1) Distributes the pulling force of the umbilical over the diver's body; and

(2) Prevents strain on the mask or helmet.

§ 197.326 Oxygen safety.

(a) Equipment used with oxygen or oxygen mixtures greater than 40 percent by volume must be designed for such use.

(b) Oxygen systems with pressures greater than 125 psig must have slow-opening shut-off valves except pressure boundary shut-off valves may be ball valves.

§ 197.328 PVHO—General.

(a) Each PVHO, contracted for or purchased after February 1, 1979, must be built and stamped in accordance with ASME PVHO-1.

(b) Each PVHO, contracted for or constructed before February 1, 1979, and not Coast Guard approved, must be submitted to the Coast Guard for approval prior to February 1, 1984.

(c) To be approved under paragraph (b), a PVHO must be—

(1) Constructed in accordance with Part 54 of this Chapter; or—

(2) Be built in accordance with section VIII, division 1 or division 2 of the ASME Code; and—

(i) Have the plans approved in accordance with § 54.01-18 of this chapter;

(ii) Pass the radiographic and other survey tests of welded joints required by section VIII, division 1 or division 2, as appropriate, of the ASME Code; and

(iii) Pass—(A) The hydrostatic test described in § 54.10-10 of this chapter; or

(B) The pneumatic test described in § 54.10-15 of this chapter and such additional tests as the Officer-in-Charge, Marine Inspection (OCMI) may require.

(d) Each PVHO must—

(1) Have a shut-off valve located within 1 foot of the pressure boundary on all piping penetrating the pressure boundary;

(2) Have a check valve located within 1 foot of the pressure boundary on all piping exclusively carrying fluids into the PVHO;

(3) Have the pressure relief device required by ASME PVHO-1;

(4) Have a built-in breathing system with at least one mask per occupant stored inside each separately pressurized compartment;

(5) Have a two-way voice communications system allowing communications between an occupant in one pressurized compartment of the PVHO and—

(i) The diving supervisor at the dive location;

(ii) Any divers being supported from the same PVHO; and

(iii) Occupants of other separately pressurized compartments of the same PVHO;

(6) If designed to mechanically couple to another PVHO, have a two-way communications system allowing communications between occupants of each PVHO when mechanically coupled;

(7) Have a pressure gage in the interior of each compartment that is—

(i) Designed for human occupancy; and

(ii) Capable of having the compartment pressure controlled from inside the PVHO;

(8) Have viewports that allow observation of occupants from the outside;

(9) Have viewports that meet the requirements of ASME PVHO-1 except those PVHO's approved under paragraph (b) of this section which have nonacrylic viewports;

(10) Have means of illumination sufficient to allow an occupant to—

(i) Read gages; and

(ii) Operate the installed systems within each compartment;

(11) Be designed and equipped to minimize sources of combustible materials and ignition;

(12) Have a protective device on the inlet side of PVHO exhaust lines;

(13) Have a means of extinguishing a fire in the interior;

(14) Have a means of maintaining the oxygen content of the interior atmosphere below 25 percent surface equivalent by volume when pressurized with air as the breathing mixture;

(15) Have a means of maintaining the interior atmosphere below 2 percent surface equivalent carbon dioxide by volume;

(16) Have a means of overriding and controlling from the exterior all interior breathing and pressure supply controls;

(17) Have a speech unscrambler when used with mixed-gas;

(18) Have interior electrical systems that are designed for the environment in which they will operate to minimize the risk of fire, electrical shock to personnel, and galvanic action of the PVHO; and

(19) Be tested after every repair, modification, or alteration to the pressure boundaries as required by § 197.462.

§ 197.330 PVHO—Closed bells.

(a) Except as provided in paragraph (b) of this section, each closed bell must meet the requirements of § 197.328 and—

(1) Have underwater breathing apparatus for each occupant stored inside each separately pressurized compartment;

(2) Have an umbilical;

(3) Have lifting equipment attached to the closed bell capable of returning the occupied closed bell when fully flooded to the dive location;

(4) Be capable of recompressing on the surface to the maximum design diving depth;

(5) Be constructed and equipped as required by § 197.332;

(6) Have an emergency locating device designed to assist personnel on the surface in acquiring and maintaining contact with the submerged PVHO if the umbilical to the surface is severed;

(7) Have a capability to remove an injured diver from the water; and

(8) Have a life support capability for the intact closed bell and its occupants for—

(i) Twelve hours after an accident severing the umbilical to the surface when the umbilical to the surface is the only installed means of retrieving the closed bell; or

(ii) A period of time, at least equal to 1 hour plus twice the time required to retrieve the bell from its designed operating depth and attach an auxiliary lifesupport system, after an accident severing the umbilical to the surface when the umbilical is one of the two independent installed means of retrieving the closed bell, each meeting the requirements of paragraph (a)(3) of this section.

(b) A closed bell that does not meet the requirements of paragraphs (a)(3), (a)(4), and (a)(5) of this section, must be capable of attachment to another PVHO that—

(1) Allows the transfer of personnel and diver's equipment under pressure from the closed bell to the PVHO;

(2) Meets the requirements of paragraph (a)(3) of this section;

(3) Is capable of attachment to a decompression chamber meeting the requirements of paragraphs (a)(4) and (a)(5) of this section; and

(4) Allows the transfer of personnel and diver's equipment under pressure from the PVHO to the decompression chamber.

§ 197.332 PVHO—Decompression chambers.

Each decompression chamber must—

(a) Meet the requirements of § 197.328;

(b) Have internal dimensions sufficient to accommodate a diver lying in a horizontal position and another person tending the diver;

(c) Have a capability for ingress and egress of personnel and equipment while the occupants are under pressure;

(d) Have a means of operating all installed man-way locking devices, except disabled shipping dogs, from both sides of a closed hatch;

(e) Have interior illumination sufficient to allow visual observation, diagnosis, and medical treatment of an occupant.

(f) Have one bunk for each two occupants;

(g) Have a capability that allows bunks to be seen over their entire lengths from the exterior;

(h) Have a minimum pressure capability of—

(1) 6 ATA, when used for diving to 300 fsw; or

(2) The maximum depth of the dive, when used for diving operations deeper than 300 fsw, unless a closed bell meeting the requirements of § 197.330(a) (3), (4), and (5) is used;

(i) Have a minimum pressurization rate of 2 ATA per minute to 60 fsw and at least 1 ATA per minute thereafter;

(j) Have a decompression rate of 1 ATA per minute to 33 fsw;

(k) Have an external pressure gage for each pressurized compartment;

(l) Have a capability to supply breathing mixtures at the maximum rate required by each occupant doing heavy work; and

(m) Have a sound-powered headset or telephone as a backup to the communications system required by § 197.328(c) (5) and (6), except when that communications system is a sound-powered system.

§ 197.334 Open diving bells.

Each open diving bell must—

(a) Have an upper section that provides an envelope capable of maintaining a bubble of breathing mixture available to a diver standing on the lower section of the platform with his body through the open bottom and his head in the bubble;

(b) Have lifting equipment capable of returning the occupied open bell to the dive location;

(c) Have an umbilical; and

(d) Be—(1) Made of corrosion-resisting material; or

(2) Protected against and maintained free from injurious corrosion.

§ 197.336 Pressure piping.

Piping systems that are not an integral part of the vessel or facility, carrying fluids under pressures exceeding 15 psig must—

(a) Meet the ANSI Code;

(b) Have the point of connection to the integral piping system of the vessel or facility clearly marked; and

(c) Be tested after every repair, modification, or alteration to the pressure boundaries as set forth in § 197.462.

§ 197.338 Compressed gas cylinders.

Each compressed gas cylinder must—

(a) Be stored in a ventilated area;

(b) Be protected from excessive heat;

(c) Be prevented from falling;

(d) Be tested after any repair, modification, or alteration to the pressure boundries as set forth in § 197.462; and

(e) Meet the requirements of—

(1) Part 54 of this Chapter; or

(2) 49 CFR 173.34 and 49 CFR 178 Subpart C.

§ 197.340 Breathing gas supply.

(a) A primary breathing gas supply for surface-supplied diving must be sufficient to support the following for the duration of the planned dive:

(1) The diver.

(2) The standby diver.

(3) The decompression chamber, when required by § 197.432(e)(2) or by § 197.434(a) for the duration of the dive and for one hour after completion of the planned dive.

(4) A decompression chamber when provided but not required by this subpart.

(5) A closed bell when provided or required by § 197.434(d).

(6) An open bell when provided or required by § 197.432(e)(4) or by § 197.434(c).

(b) A secondary breathing gas supply for surface-supplied diving must be sufficient to support the following:

(1) The diver while returning to the surface.

(2) The diver during decompression.

(3) The standby diver.

(4) The decompression chamber when required by § 197.432(e)(2) or by § 197.434(a) for the duration of the dive and one hour after the completion of the planned dive.

(5) The closed bell while returning the diver to the surface.

(6) The open bell while returning the diver to the surface.

(c) A diver-carried reserve breathing gas supply for surface-supplied diving must be sufficient to allow the diver to—

(1) Reach the surface.

(2) Reach another source of breathing gas; or

(3) Be reached by a standby diver equipped with another source of breathing gas for the diver.

(d) A primary breathing gas supply for SCUBA diving must be sufficient to support the diver for the duration of the planned dive through his return to the dive location or planned pick-up point.

(e) A diver-carried reserve breathing gas supply for SCUBA diving must be sufficient to allow the diver to return to the dive location or planned pick-up point from the greatest depth of the planned dive.

(f) Oxygen used for breathing mixtures must—

(1) Meet the requirements of Federal Specification BB-0-925a; and

(2) Be type 1 (gaseous) grade A or B.

(g) Nitrogen used for breathing mixtures must—

(1) Meet the requirements of Federal Specification BB-N-411c;

(2) Be type 1 (gaseous);

(3) Be class 1 (oil free); and

(4) Be grade A, B, or C.

(h) Helium used for breathing mixtures must be grades A, B, or C produced by the Federal Government, or equivalent.

(i) Compressed air used for breathing mixtures must—

(1) Be 20 to 22 percent oxygen by volume;

(2) Have no objectionable odor; and

(3) Have no more than—

(i) 1,000 parts per million of carbon dioxide;

(ii) 20 parts per million carbon monoxide;

(iii) 5 milligrams per cubic meter of solid and liquid particulates including oil; and

(iv) 25 parts per million of hydrocarbons (includes methane and all other hydrocarbons expressed as methane).

§ 197.342 Buoyancy-changing devices.

(a) A dry suit or other buoyancy-changing device not directly connected to the exhaust valve of the helmet or mask must have an independent exhaust valve.

(b) When used for SCUBA diving, a buoyancy-changing device must have an inflation source separate from the breathing gas supply.

§ 197.344 Inflatable floatation devices.

An inflatable floatation device for SCUBA diving must—

(a) Be capable of maintaining the diver at the surface in a faceup position;

(b) Have a manually activated inflation device;

(c) Have an oral inflation device;

(d) Have an over-pressure relief device; and

(e) Have a manually operated exhaust valve.

§ 197.346 Diver's equipment.

(a) Each diver using SCUBA must have—

(1) Self-contained underwater breathing equipment including—

(i) A primary breathing gas supply with a cylinder pressure gage readable by the diver during the dive; and

(ii) A diver-carried reserve breathing gas supply provided by—

(A) A manual reserve (J valve); or

(B) An independent reserve cylinder connected and ready for use;

(2) A face mask;

(3) An inflatable floatation device;

(4) A weight belt capable of quick release;

(5) A knife;

(6) Swim fins or shoes;

(7) A diving wristwatch; and

(8) A depth gage.

(b) Each diver using a heavyweight diving outfit must—

(1) Have a helmet group consisting of helmet, breastplate, and associated valves and connections;

(2) Have a diving dress group consisting of a basic dress that encloses the body (except for head and hands) in a tough, waterproof cover, gloves, shoes, weight assembly, and knife;

(3) Have a hose group consisting of the breathing gas hose and fittings, the control valve, the lifeline, communications cable, and a pneumofathometer; and

(4) Be provided with a helmet cushion and weighted shoes.

(c) Each surface-supplied dive operation using a heavyweight diving outfit must have an extra breathing gas hose with attaching tools available to the standby diver.

(d) Each diver using a lightweight diving outfit must have—

(1) A safety harness;

(2) A weight assembly capable of quick release;

(3) A mask group consisting of a lightweight mask and associated valves and connections;

(4) A diving dress group consisting of wet or dry diving dress, gloves, shoes or fins, and knife; and

(5) A hose group consisting of the breathing gas hose and fittings, the control valve, the lifeline, communications cable, and a pneumofathometer (if the breaking strength of the communications cable is at least equal to that required for the lifeline, the communications cable can serve as the lifeline).

(e) Each surface-supplied air dive operation within the no-decompression limits and to depths of 130 fsw or less must have a primary breathing gas supply at the dive location.

(f) Each surface-supplied dive operation outside the no-compression limits, deeper than 130 fsw, or using mixed-gas as a breathing mixture must have at the dive location—

(1) A primary breathing gas supply; and

(2) A secondary breathing gas supply.

(g) Each diver diving outside the no-decompression limits, deeper than 130 fsw, or using mixed-gas must have a diver-carried reserve breathing gas supply except when using a heavyweight diving outfit or when diving in a physically confining area.

OPERATIONS

§ 197.400 Applicability.

Diving operations may only be conducted from a vessel or facility subject to the subpart if the regulations in this subpart are met.

§ 197.402 Responsibilities of the person-in-charge.

(a) The person-in-charge shall—

(1) Be fully cognizant of the provisions of this subpart;

(2) Prior to permitting any commercial diving operation to commence, have—

(i) The designation of the diving supervisor for each diving operation as required by § 197.210;

(ii) A report on—

(A) The nature and planned times of the planned diving operation; and

(B) The planned involvement of the vessel or facility, its equipment, and its personnel in the diving operation.

(b) Prior to permitting any commerical diving operation involving liveboating to commence, the person-in-charge shall insure that—

(1) A means of rapid communications with the diving supervisor while the diver is entering, in, or leaving the water is established; and

(2) A boat and crew for diver pickup in the event of an emergency is provided.

(c) The person-in-charge shall insure that a boat and crew for SCUBA diver pickup is provided when SCUBA divers are not line-tended from the dive location.

(d) The person-in-charge shall coordinate the activities on and of the vessel or facility with the diving supervisor.

(e) The person-in-charge shall insure that the vessel or facility equipment and personnel are kept clear of the dive location except after coordinating with the diving supervisor.

§ 197.404 Responsibilities of the diving supervisor.

(a) The diving supervisor shall—

(1) Be fully cognizant of the provisions of this subpart;

(2) Be fully cognizant of the provisions of the operations manual required by § 197.420;

(3) Insure that diving operations conducted from a vessel or facility subject to this subpart meet the regulations in this subpart;

(4) Prior to the commencement of any commercial diving operation, provide the report required by § 197.402 to the person-in-charge;

(5) Coordinate with the person-in-charge any changes that are made to the report required by § 197.402; and

(6) Promptly notify the person-in-charge of any diving related casualty, accident, or injury.

(b) The diving supervisor is in charge of the planning and execution of the diving operation including the responsibility for the safety and health of the dive team.

§ 197.410 Dive procedures.

(a) The diving supervisor shall insure that—

(1) Before commencing diving operations, dive team members are briefed on—

(i) The tasks to be undertaken;

(ii) Any unusual hazards or environmental conditions likely to affect the safety of the diving operation; and

(iii) Any modifications to the operations manual or procedures including safety procedures necessitated by the specific diving operation;

(2) The breathing gas supply systems, masks, helmets, thermal protection, when provided, and bell lifting equipment, when a bell is provided or required, are inspected prior to each diving operation;

(3) Each diver is instructed to report any physical problems or physiological effects including aches, pains, current illnesses, or symptoms of decompression sickness prior to each dive;

(4) A depth, bottom time profile, including any breathing mixture changes, is maintained at the dive location for each diver during the dive, except that SCUBA divers shall maintain their own profiles;

(5) A two-way voice communication system is used between—

(i) Each surface-supplied diver and a dive team member at the dive location or bell (when provided); and

(ii) The bell (when provided) and the dive location;

(6) A two-way communication system is available at the dive location to obtain emergency assistance;

(7) After the completion of each dive—

(i) The physical condition of the diver is checked by—

(A) Visual observation; and

(B) Questioning the diver about his physical well-being;

(ii) The diver is instructed to report any physical problems or adverse physiological effects including aches, pains, current illnesses, or symptoms of decompression sickness or gas embolism;

(iii) The diver is advised of the location of an operational decompression chamber; and

(iv) The diver is alerted to the potential hazards of flying after diving;

(8) For any dive outside the no-decompression limits, deeper than 130 fsw, or using mixed-gas as a breathing mixture—

(i) A depth, time, decompression profile including breathing mixture changes is maintained for each diver at the dive location;

(ii) The diver is instructed to remain awake and in the vicinity of the dive location decompression chamber for at least one hour after the completion of a dive, decompression, or treatment; and

(iii) A dive team member, other than the diver, is trained and available to operate the decompression chamber; and

(9) When decompression sickness or gas embolism is suspected or symptoms are evident, a report is completed containing—

(i) The investigation for each incident including—

(A) The dive and decompression profiles;

(B) The composition, depth, and time of breathing mixture changes;

(C) A description of the symptoms including depth and time of onset; and

(D) A description and results of the treatment;

(ii) The evaluation for each incident based on—

(A) The investigation;

(B) Consideration of the past performance of the decompression table used; and

(C) Individual susceptibility; and

(iii) The corrective action taken, if necessary, to reduce the probability of recurrence.

(b) The diving supervisor shall ensure that the working interval of a dive is terminated when he so directs or when—

(1) A diver requests termination;

(2) A diver fails to respond correctly to communications or signals from a dive team member;

(3) Communications are lost and can not be quickly reestablished between—

(i) The diver and a dive team member at the dive location; or

(ii) The person-in-charge and the diving supervisor during liveboating operations; or

(4) A diver begins to use his diver-carried reserve breathing gas supply.

§ 197.420 Operations manual.

(a) The diving supervisor shall—

(1) Provide an operations manual to the person-in-charge prior to commencement of any diving operation; and

(2) Make an operations manual available at the dive location to all members of the dive team.

(b) The operations manual must be modified in writing when adaptation is required because of—

(1) The configuration or operation of the vessel or facility; or

(2) The specific diving operation as planned.

(c) The operations manual must provide for the safety and health of the divers.

(d) The operations manual must contain the following:

(1) Safety procedures and checklists for each diving mode used.

(2) Assignments and responsibilities of each dive team member for each diving mode used.

(3) Equipment procedures and checklists for each diving mode used.

(4) Emergency procedures for—

(i) Fire;

(ii) Equipment failure;

(iii) Adverse environmental conditions including, but not limited to, weather and sea state;

(iv) Medical illness; and

(v) Treatment of injury.

(5) Procedures dealing with the use of—

(i) Hand-held power tools;

(ii) Welding and burning equipment; and

(iii) Explosives.

SPECIFIC DIVING MODE PROCEDURES

§ 197.430 SCUBA diving.

The diving supervisor shall insure that—

(a) SCUBA diving is not conducted—

(1) Outside the no-decompression limits;

(2) At depths greater than 130 fsw;

(3) Against currents greater than one (1) knot unless line-tended; and

(4) If a diver cannot directly ascend to the surface unless line-tended;

(b) The SCUBA diver has the equipment required by § 197.346(a);

(c) A standby diver is available while a diver is in the water;

(d) A diver is line-tended from the surface or accompanied by another diver in the water in continuous visual contact during the diving operation;

(e) When a diver is in a physically confining space, another diver is stationed at the underwater point of entry and is line-tending the diver; and

(f) A boat is available for diver pickup when the divers are not line-tended from the dive location.

§ 197.432 Surface-supplied air diving.

The diving supervisor shall insure that—

(a) Surface-supplied air diving is conducted at depths less than 190 fsw, except that dives with bottom times of 30 minutes or less may be conducted to depths of 220 fsw;

(b) Each diving operation has a primary breathing gas supply;

(c) Each diver is continuously tended while in the water;

(d) When a diver is in a physically confining space, another diver is stationed at the underwater point of entry and is line-tending the diver;

(e) For dives deeper than 130 fsw or outside the no-decompression limits—

(1) Each diving operation has a secondary breathing gas supply;

(2) A decompression chamber is ready for use at the dive location;

(3) A diving stage is used except when a bell is provided;

(4) A bell is used for dives with an in-water decompression time greater than 120 minutes, except when the diver is using a heavy-weight diving outfit or is diving in a physically confining space;

(5) A separate dive team member tends each diver in the water;

(6) A standby diver is available while a diver is in the water; and

(7) Each diver has a diver-carried reserve breathing gas supply except when using a heavy-weight diving outfit or when diving in a physically confining space; and

(f) The surface-supplied air diver has the equipment required by § 197.346 (b) or (d).

§ 197.434 Surface-supplied mixed-gas diving.

The diving supervisor shall insure that—

(a) When mixed-gas diving is conducted, a decompression chamber or a closed bell meeting the requirements of § 197.332 is ready for use at the dive location;

(b) A diving stage is used except when a bell is provided;

(c) A bell is used for dives deeper than 220 fsw or when the dive involves in-water decompression times greater than 120 minutes, except when the diver is using a heavy-weight diving outfit or is diving in a physically confining space;

(d) A closed bell is used for dives at depths greater than 300 fsw, except when diving is conducted in a physically confining space;

(e) A separate dive team member tends each diver in the water;

(f) A standby diver is available during all nonsaturation dives;

(g) When saturation diving is conducted—

(1) A standby diver is available when the closed bell leaves the dive location until the divers are in saturation; and

(2) A member of the dive team at the dive location is a diver able to assist in the recovery of the closed bell or its occupants, if required;

(h) When closed bell operations are conducted, a diver is available in the closed bell to assist a diver in the water;

(i) When a diver is in a physically confining space, another diver is stationed at the underwater point of entry and is line-tending the diver;

(j) Each diving operation has a primary and secondary breathing gas supply meeting the requirements of § 197.340; and

(k) The surface-supplied mixed-gas diver has the equipment required by § 197.346 (b) or (d).

§ 197.436 Liveboating.

(a) During liveboating operations, the person-in-charge shall insure that—

(1) Diving is not conducted in seas that impede station-keeping ability of the vessel;

(2) Liveboating operations are not conducted—

(i) From 1 hour after sunset to 1 hour before sunrise; or

(ii) During periods of restricted visibility;

(3) The propellers of the vessel are stopped before the diver enters or exits the water; and

(4) A boat is ready to be launched with crew in the event of an emergency.

(b) As used in paragraph (a)(2)(ii) of this section, "restricted visibility" means any condition in which vessel navigational visibility is restricted by fog, mist, falling snow, heavy rainstorms, sandstorms or any other similar causes.

(c) During liveboating operations, the diving supervisor shall insure that—

(1) Diving is not conducted at depths greater than 220 fsw;

(2) Diving is not conducted in seas that impede diver mobility or work function;

(3) A means is used to prevent the diver's hose from entangling in the propellers of the vessel;

(4) Each diver carries a reserve breathing gas supply;

(5) A standby diver is available while a diver is in the water;

(6) Diving is not conducted with in-water decompression times greater than 120 minutes; and

(7) The person-in-charge is notified before a diver enters or exits the water.

PERIODIC TESTS AND INSPECTIONS OF DIVING EQUIPMENT

§ 197.450 Breathing gas tests.

The diving supervisor shall insure that—

(a) The output of each air compressor is tested and meets the requirements of § 197.340 for quality and quantity by means of samples taken at the connection point to the distribution system—

(1) Every 6 months; and

(2) After every repair or modification.

(b) Purchased supplies of breathing mixtures supplied to a diver are checked before being placed on line for—

(1) Certification that the supply meets the requirements of § 197.340; and

(2) Noxious or offensive odor and oxygen percentage;

(c) Each breathing supply system is checked, prior to commencement of diving operations, at the umbilical or underwater breathing apparatus connection point for the diver, for noxious or offensive odor and presence of oil mist; and

(d) Each breathing supply system, supplying mixed-gas to a diver, is checked, prior to commencement of diving operations, at the umbilical or underwater breathing apparatus connection point for the diver, for percentage of oxygen.

§ 197.452 Oxygen cleaning.

The diving supervisor shall ensure that equipment used with oxygen or oxygen mixtures greater than 40 percent by volume is cleaned of flammable materials—

(a) Before being placed into service; and

(b) After any repair, alteration, modification, or suspected contamination.

§ 197.454 First aid and treatment equipment.

The diving supervisor shall ensure that medical kits are checked monthly to insure that all required supplies are present.

§ 197.456 Breathing supply hoses.

(a) The diving supervisor shall insure that—

(1) Each breathing supply hose is pressure tested prior to being placed into initial service and every 24 months thereafter to 1.5 times its maximum working pressure;

(2) Each breathing supply hose assembly, prior to being placed into initial service and after any repair, modification, or alteration, is tensile tested by—

(i) Subjecting each hose-to-fitting connection to a 200 pound axial load; and

(ii) Passing a visual examination for evidence of separation, slippage, or other damage to the assembly;

(3) Each breathing supply hose is periodically checked for—

(i) Damage which is likely to affect pressure integrity; and

(ii) Contamination which is likely to affect the purity of the breathing mixture delivered to the diver; and

(4) The open ends of each breathing supply hose are taped, capped, or plugged when not in use.

(b) To meet the requirements of paragraph (a)(3) of this section, each breathing supply hose must be—

(1) Carefully inspected before being shipped to the dive location;

(2) Visually checked during daily operation; and

(3) Checked for noxious or offensive odor before each diving operation.

§ 197.458 Gages and timekeeping devices.

The diving supervisor shall insure that—

(a) Each depth gage and timekeeping device is tested or calibrated against a master reference gage or time- keeping device every 6 months;

(b) A depth gage is tested when a discrepancy exists in a depth gage reading greater than 2 percent of full scale between any two gages of similar range and calibration;

(c) A timekeeping device is tested when a discrepancy exists in a timekeeping device reading greater than one-quarter of a minute in a 4-hour period between any two timekeeping devices; and

(d) Each depth gage and timekeeping device is inspected before diving operations are begun.

§ 197.460 Diving equipment.

The diving supervisor shall insure that the diving equipment designated for use in a dive under § 197.346 is inspected before each dive.

§ 197.462 Pressure vessels and pressure piping.

(a) The diving supervisor shall insure that each volume tank, cylinder, PVHO, and pressure piping system has been examined and tested every 12 months and after any repair, modification, or alteration to the extent necessary to determine that they are in condition and fit for the service intended.

(b) The following tests must be made to meet the annual requirements of paragraph (a) of this section:

(1) An internal and external visual examination for mechanical damage or deterioration. If a defect is found that may impair the safety of the pressure vessel, a hydrostatic test must be performed.

(2) A leak test.

(3) A pneumatic test.

(4) A hydrostatic test every fifth year instead of the pneumatic test.

(c) The following tests must be made after any repair, modification, or alteration to meet the requirements of paragraph (a) of this section:

(1) An internal and external visual examination for correctness and adequacy of repair, modification, or alteration.

(2) A leak test.

(3) A hydrostatic test when the repair, modification, or alteration affects the pressure boundary.

(d) When the pneumatic test on pressure vessels is conducted—

(1) The test pressure must be the maximum allowable working pressure stamped on the pressure vessel; and

(2) The test may be conducted only after suitable precautions are taken to protect personnel and equipment.

(e) When the pneumatic test on pressure piping is conducted

(1) The test pressure must be no less than 90 percent of the setting of the relief device; and

(2) The test may be conducted only after suitable precautions are taken to protect personnel and equipment.

(f) When a hydrostatic test on a pressure vessel is made, the test pressure must be—

(1) 1¼ times the pressure stamped on the pressure vessel built to division 2 of the ASME Code; and

(2) 1½ times the pressure stamped on the pressure vessel built to division 1 of the ASME Code.

(g) When a hydrostatic test on pressure piping is conducted, the test must be conducted in accordance with the ANSI Code.

(h) When the leak test on pressure vessels or pressure piping is conducted—

(1) The test must be conducted with the breathing mixture normally used in service;

(2) The test must be conducted at the maximum allowable working pressure; and

(3) The test pressure must be maintained for a minimum of 10 minutes to

allow checking all joints, connections, and regions of high stress for leakage.

RECORDS

§ 197.480 Logbooks.

(a) The person-in-charge of a vessel or facility required by 46 U.S.C. 201 to have an official logbook shall maintain the logbook on form CG-706.

(b) The person-in-charge of a vessel or facility not required by 46 U.S.C. 201 to have an official logbook, shall maintain, on board, a logbook for making the entries required by this subpart.

(c) The diving supervisor conducting commercial diving operations from a vessel or facility subject to this subpart shall maintain a logbook for making the entries required by this subpart.

§ 197.482 Logbook entries.

(a) The person-in-charge shall insure that the following information is recorded in the logbook for each commercial diving operation:

(1) Date, time, and location at the start and completion of dive operations.

(2) Approximate underwater and surface conditions (weather, visibility, temperatures, and currents).

(3) Name of the diving supervisor.

(4) General nature of work performed.

(b) The diving supervisor shall insure that the following information is recorded in the logbook for each commercial diving operation:

(1) Date, time, and location at the start and completion of each dive operation.

(2) Approximate underwater and surface conditions (weather, visibility, temperatures, and currents).

(3) Names of dive team members including diving supervisor.

(4) General nature of work performed.

(5) Repetitive dive designation or elapsed time since last hyperbaric exposure if less than 24 hours for each diver.

(6) Diving modes used.

(7) Maximum depth and bottom time for each diver.

(8) Name of person-in-charge.

(9) For each dive outside the no-decompression limits, deeper than 130 fsw, or using mixed-gas, the breathing gases and decompression table designations used.

(10) When decompression sickness or gas embolism is suspected or symptoms are evident—

(i) The name of the diver; and

(ii) A description and results of treatment.

(11) For each fatality or any diving related injury or illness that results in incapacitation of more than 72 hours or requires any dive team member to be hospitalized for more than 24 hours—

(i) The date;

(ii) Time;

(iii) Circumstances; and

(iv) Extent of any injury or illness.

(c) The diving supervisor shall insure that the following is recorded in the logbook for each diving operation deviating from the requirements of this subpart:

(1) A description of the circumstances leading to the situation.

(2) The deviations made.

(3) The corrective action taken, if appropriate, to reduce the possibility of recurrence.

(d) The diving supervisor shall insure that a record of the following is maintained:

(1) The date and results of each check of the medical kits.

(2) The date and results of each test of the air compressor.

(3) The date and results of each check of breathing mixtures.

(4) The date and results of each check of each breathing supply system.

(5) The date, equipment cleaned, general cleaning procedure, and names of persons cleaning the diving equipment for oxygen service.

(6) The date and results of each test of the breathing supply hoses and system.

(7) The date and results of each inspection of the breathing gas supply system.

(8) The date and results of each test of depth gages and timekeeping devices.

(9) The date and results of each test and inspection of each PVHO.

(10) The date and results of each inspection of the diving equipment.

(11) The date and results of each test and inspection of pressure piping.

(12) The date and results of each test and inspection of volume tanks and cylinders.

(e) The diving supervisor shall insure that a notation concerning the location of the information required under paragraph (d) is made in the logbook.

NOTE.—R.S. 4290 (46 U.S.C. 201) requires that certain entries be made in an official logbook in addition to the entries required by this section; and R.S. 4291 (46 U.S.C. 202) prescribes the manner of making those entries.

§ 197.484 Notice of casualty.

(a) In addition to the requirements of subpart 4.05 of this chapter and 33 CFR 146.01-20, the person-in-charge shall notify the Officer-in-Charge, Marine Inspection, as soon as possible after a diving casualty occurs, if the casualty involves any of the following:

(1) Loss of life.

(2) Diving-related injury to any person causing incapacitation for more than 72 hours.

(3) Diving-related injury to any person requiring hospitalization for more than 24 hours.

(b) The notice required by this section must contain the following:

(1) Name and official number (if applicable) of the vessel or facility.

(2) Name of the owner or agent of the vessel or facility.

(3) Name of the person-in-charge.

(4) Name of the diving supervisor.

(5) Description of the casualty including presumed cause.

(6) Nature and extent of the injury to persons.

(c) The notice required by this section is not required if the written report required by § 197.486 is submitted within 5 days of the casualty.

§ 197.486 Written report of casualty.

The person-in-charge of a vessel or facility for which a notice of casualty was made under § 197.484 shall submit a report to the Officer-in-Charge, Marine Inspection, as soon as possible after the casualty occurs, as follows:

(a) On form CG-924E, when the diving installation is on a vessel.

(b) Using a written report, in narrative form, when the diving installation is on a facility. The written report must contain the information required by § 197.484.

(c) The report required by this section must be accompanied by a copy of the report required by § 197.410(a)(9) when decompression sickness is involved.

§ 197.488 Retention of records after casualty.

(a) The owner, agent, or person-in-charge of a vessel or facility for which a report of casualty is made under § 197.484 shall retain all records onboard that are maintained on the vessel or facility and those records required by this subpart for 6 months after the report of a casualty is made or until advised by the Officer-in-Charge, Marine Inspection, that records need not be retained onboard.

(b) The records required by paragraph (a) of this section to be retained on board include, but are not limited to, the following:

(1) All logbooks required by § 197.480.

(2) All reports required by § 197.402(a)(2)(ii), § 197.404(a)(4), § 197.410(a)(9).

(c) The owner, agent, person-in-charge, or diving supervisor shall, upon request, make the records described in this section available for examination by any Coast Guard official authorized to investigate the casualty.

APPENDIX A—AIR NO-DECOMPRESSION LIMITS.

The following table gives the depth versus bottom time limits for single, no-decompression, air dives made within any 12-hour period. The limit is the maximum bottom time in minutes that a diver can spend at that depth without requiring decompression beyond that provided by a normal ascent rate of 60 fsw per minute. (Although bottom time is concluded when ascent begins, a slower ascent rate would increase the bottom time thereby requiring decompression.) An amount of nitrogen remains in the tissues of a diver after any air dive, regardless of whether the dive was a decompression or no-decompression dive. Whenever another dive is made within a 12-hour period, the nitrogen remaining in the blood and body tissues of the diver must be considered when calculating his decompression.

AIR NO-DECOMPRESSION LIMITS

Depth (feet):	No-decompression limits (minutes)
35	310
40	200
50	100
60	60
70	50
80	40
90	30
100	25
110	20
120	15
130	10

(Source: U.S. Navy Diving Manual, 1 September 1973.)

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FINDING AIDS

A list of CFR titles, subtitles, chapters, subchapters and parts and an alphabetical list of agencies publishing in the CFR are included in the CFR Index and Finding Aids volume to the Code of Federal Regulations which is published separately and revised semiannually (January 1 and July 1).

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The Director of the Federal Register approves the following incorporations by reference for one year effective October 1, 1981, unless otherwise noted (5 U.S.C. 552(a) and 1 CFR Part 51). For more information on incorporation by reference, see the preliminary pages of this volume.

46 CFR SUBCHAPTER R	*CFR Citation*
COAST GUARD, DEPARTMENT OF TRANSPORTATION	
American Bureau of Shipping	
65 Broadway, New York, NY 10006	
Rules for Building and Classing Steel Vessels, 1981	167.15–27; 167.20–1
Institute of Electrical and Electronic Engineers (formerly American Institute of Electrical Engineers)	
345 East 47th St., New York, NY 10017	
45—Recommended Practice for Electrical Installations on Shipboard, 1977.	167.40–1; 167.25–1
Naval Publications and Forms Center, Customer Service—Code 1052	
5801 Tabor Ave., Philadelphia, PA 19120	
Federal specification: ZZ–H–451 Hose, Fire, Woven-Jacketed Rubber or Cambric-lined, with Couplings, F.	167.45–5
National Fire Protection Association	
Batterymarch Park, Quincy, MA 02269	
306—Control of Gas Hazards on Vessels, 1980	167.30–1
Underwriters Laboratories	
333 Pfingsten Rd., Northbrook, IL 60062	
UL 19—Woven-jacketed Rubber Lined Fire Hose, 1978	167.45–5
46 CFR SUBCHAPTER T	
COAST GUARD, DEPARTMENT OF TRANSPORTATION	
American Boat and Yacht Council	
P.O. Box 806—190 Ketchum Ave., Amityville, NY 11701	
P–1—Safe Installation of Exhaust Systems for Propulsion and Auxiliary Machinery, 1973.	182.15–15; 182.15–20
Institute of Electrical and Electronic Engineers (formerly American Institute of Electrical Engineers)	
345 East 47th St., New York, NY 10017	
45—Recommended Practice for Electrical Installations on Shipboard, 1977.	183.01–15; 183.05–45; 183.10–10
American Society for Testing and Materials	
1916 Race St., Philadelphia, PA 19103	
ASTM B 97–77—Copper-Silicon Alloy Plate, Sheet, Strip and Rolled Bar for General Purposes.	182.15–25
ASTM B 122–79—Copper-Nickel Zinc Alloy (Nickel Silver) and Copper-Nickel Alloy Plate, Strip, and Rolled Bar.	182.15–25
ASTM B 127–80a—Nickel-Copper Alloy (UNS NO4400) Plate, Sheet and Strip.	182.15–25; 182.20–25

	CFR Citation
ASTM B 152-79—Copper, Sheet, Strip, Plate and Rolled Bar	182.15-25
ASTM B 209-81—Aluminum Alloy Sheet and Plate	182.15-25; 182.20-25
ASTM D 93-80—Test for Flash Point by Pennsky-Martens Closed Tester.	182.15-1; 182.20-1
ASTM D 323-79—Test for Vapor Pressure of Petroleum Products (Reid Method).	188.10-21
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Federal Specification ZZ-H-451—Hose, Fire, Woven-jacketed Rubber or Cambric-lined, with Couplings, F.	181.15-10
NAVSEA Cable Comparison Guide, 1975	183.10-20
National Fire Protection Association Batterymarch Park, Quincy, MA 02269	
70—National Electrical Code, 1980	183.01-10; 183.05-45; 183.05-50; 183.10-20
Underwriters Laboratories 333 Pfingsten Rd., Northbrook, IL 60062	
UL 19—Woven-jacketed Rubber Lined Fire Hose, 1978	181.15-10
UL 197—Commercial Electric Cooking Appliances, 1978, incl. all revisions thru 1979.	183.01-15; 183.10-45
UL 595—Marine Type Electric Lighting Fixtures, 1974, incl. all revisions thru 1980.	183.01-15
UL 1102—Non Integral Marine Fuel Tanks, 1980	182.15-25

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COAST GUARD, DEPARTMENT OF TRANSPORTATION

American Bureau of Shipping 65 Broadway, New York, NY 10006	
Rules for Building and Classing Steel Vessels, 1981	188.35-1; 189.15-1; 190.01-10; 190.01-15; 195.01-5
Coast Guard, G-MMT/12 2100 2nd St., SW, Washington, DC 20593	
160.014—"Compass and Mounting dated December 14, 1944" (Specification for Compasses: Magnetic, Liquid-filled, Mariners, Compensating, for Lifeboats (with mounting) for Merchant Vessels, 1944.	192.20-15
Naval Publications and Forms Center, Customer Service—Code 1052 5801 Tabor Ave., Philadelphia, PA 19120	
Federal Specification: ZZ-H-451—Hose, Fire, Woven-jacketed, Rubber or Cambric Lined, with Couplings, F.	193.10-10
National Fire Protection Association Batterymarch Park, Quincy, MA 02269	
306—Control of Gas Hazards on Vessels (Formerly "Control of Gas Hazards on Vessels to be Repaired"), 1975.	189.50-1
Underwriters Laboratories 333 Pfingsten Rd., Northbrook, IL 60002	
UL 19—Woven-jacketed Rubber Lined Fire Hose, 1978	193.10-10

Material Approved for Incorporation by Reference

	CFR Citation
46 CFR SUBCHAPTER V	
COAST GUARD, DEPARTMENT OF TRANSPORTATION	
American National Standards Institute 1430 Broadway, New York, NY 10018	
ANSI B31.1–1980—Power Piping	197.204; 197.205; 197.336
ANSI/ASME PVHO 1 Safety Standard for Pressure Vessels for Human Occupancy, 1981	197.204; 197.205; 197.300; 197.328
American Society of Mechanical Engineers United Engineering Center, 345 East 47th St., New York, NY 10017	
Boiler and Pressure Vessel Code, Section VIII, 1980	197.204; 197.205; 197.300; 197.310; 197.328
Naval Publications and Forms Center, Customer Service—Code 1052 5801 Tabor Ave., Philadelphia, PA 19120	
Federal Specifications: BB–N–411—Nitrogen, Technical, C	197.340
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List of CFR Sections Affected

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For the period before January 1, 1973, see the "List of CFR Sections Affected, 1949-1963 and 1964-1972," published in three volumes.

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NOTE: Asterisk (*) identifies changes published in 1974.

NOTE: Symbol (†) refers to 1975 page numbers.

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182.20-30	(b) amended	**48880
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NOTE: Symbol (†) refers to 1978 page numbers.

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167.45-40	(c) revised; (c-1) and (c-2) added	Δ2394
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